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MISSION BASED ANALYSES OF ARMOR TRAINING REQUIREMENTS. VOLUME VII: TRAINING OBJECTIVES FOR THE XM1 LOADER

ARI FIELD UNIT AT FORT KNOX, KENTUCKY

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

A detailed analysis was conducted of armor operations to provide the basis for developing a set of platoon drills for combined individual and collective armor training. The analysis provided information on the stages of armor operations, the individual and collective tasks that are performed during each stage, training objectives for these tasks, leadership tasks that are performed during each stage, and the types of factors that affect armor operations during combat.

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item 20, continued

An analysis of armor operations was conducted to identify, classify, and interrelate the activities performed during tank platoon missions. Volume VII* of this report contains training objectives for the XM1 Loader.

Other reports in the series are as follows:

Volume I:	Final Report
Volume II:	Armor Operation Time Sequences
Volume III:	Leadership Tasks Performed During Tank Platoon Operations
Volume IV:	Crewman Tasks Performed During Tank Platoon Operations
Volume V:	Relationships Among Collective and Individual Tasks in Tank Platoon Operations
Volume VI:	Training Objectives for Tank Platoons and Crews
*Volume VII:	Training Objectives for the XM1 Loader

FOREWORD

This is Volume VII of the Final Report of a project entitled Mission-Based Simulation and Training Requirements. This volume contains training objectives for the loader of the XM1 tank. The other volumes of the Final Report are Volume I: Final Report; Volume II: Armor Operation Time Sequences; Volume III: Leadership Tasks Performed During Tank Platoon Operations; Volume IV: Crewman Tasks Performed During Tank Platoon Operations; Volume V: Relationships Among Collective and Individual Tasks in Tank Platoon Operations ; Volume VI: Training Objectives for Tank Platoons and Crews. Training objectives for tank commanders and drivers on the XM1 tank are contained in ARI Research Product, Development of Training Objectives for XM1 UCOFT, January 1980. Training objectives for drivers on the XM1 tank are contained in ARI Research Product, Training Materials and Data Requirements for Driver Trainer (DT) Training Test Support Plan, August 1980.

The work reported here was performed at the Fort Knox Office of the Human Resources Research Organization (HumRRO), under Contract No. 903-80-C-0229 with the US Army Research Institute for the Behavioral and Social Sciences (ARI). Dr. David W. Bessemer was the Contracting Officer's Technical Representative and provided administrative assistance and guidance.

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INTRODUCTION

The requirement to attain and sustain higher levels of combat readiness has increased the difficulties involved in the management of armor training. The difficulties stem from the additional training needed to reach and maintain these higher levels of readiness. The recent emphasis upon collective training has created still further difficulties since collective training exercises must be incorporated into training schedules that are already overcrowded.

A potential solution to this problem is to combine individual and collective training. This can be accomplished by providing opportunities to practice individual skills during collective training exercises. The combination of individual and collective training could be further improved by assessing both individual and collective task performance during the training exercises, and by correcting performance deficiencies either during or after the exercises.

Purpose

The development of a training program combining individual and collective training requires sets of training objectives for both individual and collective tasks. Training objectives for tank commanders and gunners have been previously prepared and are contained in ARI Research Product, Development of Training Objectives for XM1 UCOFT, January 1980. Training objectives for drivers have also been prepared and are contained in ARI Research Product, Training Materials and Data Requirements for Driver Trainer (DT) Support Plan, August 1980. Since training objectives for loaders had not been previously prepared, these were developed and are contained in this volume of the report. Training objectives for crew and platoon tasks were also prepared and are contained in Volume VI of the report.

PROCEDURE

The loader tasks for the XM1 were identified from an analysis of the activities described for the loader in TM 9-2350-255-10, Operator's Manual for Tank, Combat, Full-Tracked, 105MM Gun, XM1, January 1980, and from a list of loader tasks contained in 19K Armor Crewman Basic Armor Training (BAT) Tasks prepared by the Armor School at Fort Knox. After the tasks were identified, they were grouped into functional areas or modules which matched their organization in the TM. The tasks selected for the same module were then arranged in a logical performance sequence, and a training objective was written for each task. The modules and the tasks in each module are shown in Table 1, and the training objectives are contained in the Appendix.

Each training objective was organized into four parts - (1) condition/stimulus, (2) action, (3) measurement, and (4) references. The "condition/stimulus" portion of each objective provides system state information, the location of the loader when the task begins, and the stimulus that initiates the performance of the task. System state information corresponds to the traditional "conditions" aspect of objectives; it refers to any circumstance that could be expected to alter the quality or productivity of the task being performed. System state information is presented twice

TABLE 1

LOADER MODULES AND TASKS

MODULE A: PREPARE LOADER'S STATION FOR OPERATION

1A. Erect crosswind sensor
2A. Install Loader's machinegun
3A. Perform before-operations maintenance checks and services on the Loader's machinegun and the 105mm gun tube
4A. Operate the Loader's hatch
5A. Enter Loader's station
6A. Operate domelight
7A. Power up Loader's station
8A. Prepare intercommunications equipment for operation
9A. Adjust Loader's seat and platform
10A. Perform before-operations maintenance checks and services on the remote thermometer, breech group main gun mount
11A. Install and operate Loader's periscopes
12A. Position Loader's guards for firing

MODULE B: OPERATE LOADER'S PANEL

1B. Operate Loader's panel

MODULE C: OPERATE MAIN GUN ELEVATION TRAVEL LOCK

1C. Unlock main gun elevation travel lock
2C. Lock main gun elevation travel lock

MODULE D: OPERATE TURRET TRAVERSE LOCK

1D. Unlock the turret traverse lock
2D. Lock the turret traverse lock

MODULE E: OPERATE AMMUNITION COMPARTMENT DOORS

1E. Automatically operate the ready ammunition compartment door
2E. Manually open the ready ammunition compartment door
3E. Manually close the ready ammunition compartment door
4E. Open the semi-ready ammunition compartment door
5E. Close the semi-ready ammunition compartment door
6E. Open the hull ammunition compartment door
7E. Close the hull ammunition compartment door
8E. Identify main gun ammunition

MODULE F: OPERATE MAIN GUN AMMUNITION STOWAGE RACKS

1F. Stow 105mm ammo in the hull ammunition compartment
2F. Stow 105mm ammo in the ready ammunition compartment
3F. Stow 105mm ammo in the semi-ready ammunition compartment
4F. Stow 105mm ammo in the turret floor ready racks
5F. Remove an 105mm ammo round from the ammunition stowage racks

1G. Open the breech manually
2G. Close the breech manually

MODULE H: OPERATE THE MAIN GUN

1H. Check the replenisher
2H. Load the main gun
3H. Clear the main gun
4H. Perform the manual extraction of a round

MODULE I: OPERATE THE COAXIAL MACHINEGUN

1I. Load the coaxial machinegun
2I. Clear the coaxial machinegun

MODULE J: OPERATE THE LOADER'S MACHINEGUN

1J. Load the Loader's machinegun
2J. Fire the Loader's machinegun
3J. Change the barrel on the Loader's machinegun
4J. Clear the Loader's machinegun
5J. Empty the Loader's machinegun spent case can

MODULE K: OPERATE THE GAS PARTICULATE FILTER SYSTEM

1K. Operate the gas particulate filter system

MODULE L: OPERATE THE M250 BRENADE LAUNCHER

1L. Load the grenade launcher
2L. Unload the grenade launcher

MODULE M: CHECK THE TURRET NETWORKS BOX (TNB)

1M. Check the turret networks box

MODULE N: OPERATE FIRE EXTINGUISHERS

1N. Pull the external fire extinguisher handle
2N. Operate the portable fire extinguisher

MODULE O: OPERATE THE LOADER'S NIGHT VISION VIEWER

1O. Install the Loader's night vision viewer
2O. Operate the Loader's night vision viewer
3O. Remove the Loader's night vision viewer

MODULE P: PREPARE WEAPONS FOR TRAVEL

1P. Preare main gun for travel
2P. Prepare coaxial machinegun for travel
3P. Prepare Loader's machinegun for travel
4P. Prepare grenade launcher for travel

MODULE Q: POWER DOWN AND SECURE LOADER'S STATION

1Q. Stow the Loader's guards
2Q. Remove the Loader's periscope
3Q. Secure the Loader's station
4Q. Exit tank
5Q. Stow the crosswind sensor
6Q. Remove the Loader's machinegun
7Q. Close the lock the Loader's hatch from the outside

MODULE R: ZERO LOADER'S MACHINEGUN

1R. Zero Loader's machinegun

MODULE S: TARGET ACQUISITION

1S. Acquire targets
2S. Rank targets according to potential danger
3S. Identify US and foreign equipment

MODULE T: OPERATE INTERCOMMUNICATIONS EQUIPMENT

1T. Operate intercommunications equipment

within each module. It is provided in the condition/stimulus portion of each objective and near the beginning of each module in a table that summarizes the system states for all tasks contained within the module.

The "action" portion of each objective describes the steps involved in the performance of the task. The use of this information in assessing performance accuracy is described below.

The "measurement" portion of each objective provides information pertaining to the method for measuring the speed at which the task is performed (time) and the adequacy of the performance (accuracy). Time and accuracy information are presented separately for the measurement of performance during learning and the measurement of performance when learning is expected to be complete.

Measurement During Learning. During learning, time is always measured from the onset of an initiating stimulus to the completion of the last step. This is specified in the training objective for each task. Accuracy is measured by determining the match between the steps listed in the "action" section of the training objective and the steps actually performed by the loader when doing the task. This, too, is specified in the training objective for each task.

Measurement Following Learning. As in the measurement of time during learning, time following learning is normally measured from the onset of the initiating stimulus to the completion of the last step. This is specified in the training objective for each task. Accuracy, however, is not measured following learning as it is during learning. During learning, when it can be assumed that loader will be unable to successfully perform the entire task, the main concern is with the degree of correspondence between the steps required to perform the task and the steps actually followed by the loader when attempting to perform the task. Following learning, however, the main concern is with the quality of outcome rather than with the steps followed during the performance of the task. Accuracy is measured, therefore, by determining the match between the actual products of task performance and the products of performance that are indicative of success. To enable this judgment to be made, the products of successful performance are presented in the training objective for each task.

The "references" portion of each objective indicates the documents and pages where the task descriptions were found.

APPENDIX

Training Objectives

MODULE A: PREPARE LOADER'S STATION FOR OPERATION

CONDITIONS/STIMULUS

System State: Table A, Column 1A.
Loader Location: Outside tank and inside Loader's Station.
Initiating Stimuli: Order from T.C. to prepare Loader's Station for operation.

ACTION

Loader will:

1A. Erect crosswind sensor.
2A. Install Loader's Machinegun.
3A. Perform before operations maintenance checks and services on the Loader's Machinegun and the 105MM Gun Tube.
4A. Operate Loader's hatch
5A. Enter Loader's Station.
6A. Operate domelight.
7A. Power up Loader's Station.
8A. Prepare Intercommunications Equipment.
9A. Adjust Loader's seat and platform.
10A. Perform before-operations maintenance checks and services on the Remote Thermometer, Breech Group Main Gun Mount.
11A. Install and operate Loader's periscopes.
12A. Position Loader's guards for firing.

TABLE A

POSITION OF CONTROLS FOR TASKS IN MODULE A WHEN TASK PERFORMANCE BEGINS

CONTROLS	POSITION OF CONTROLS TASKS 1A, 2A	3A	4A, 5A	6A	7A	8A	9A	10A	11A	12A
AMPLIFIER MAIN POWER SWITCH	OFF	OFF OR NORM	OFF	OFF	OFF	NORM	NORM	OFF OR NORM	NORM	NORM
AMPLIFIER POWER CIRCUIT-BREAKER SWITCH	ANY POSITION	ANY POSITION	ANY POSITION	ANY POSITION	ANY POSITION	ON	ON	ON	ON	ON
AMPLIFIER INTERCOM ACCENT SWITCH	OFF	ON OR OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON
AMPLIFIER RADIO TRANS-MISSION SWITCH	CDR & CREW	CDR & CREW	CDR & CREW	CDR & CREW	CDR & CREW	CDR & CREW	CDR & CREW	CDR & CREW	CDR & CREW	CDR & CREW
INTERCOM LEVER	ANY POSITION	ANY POSITION	ANY POSITION	ANY POSITION	ANY POSITION	ANY POSITION	INT ONLY	INT ONLY	INT ONLY	INT ONLY
TURRET POWER SWITCH	OFF	ON OR OFF	ON OR OFF	ON	ON	ON	ON	ON OR OFF	ON	ON
DOMELIGHT	OFF	ON OR OFF	OFF	OFF	ON	ON	ON	ON	ON	ON
TURRET BLOWER SWITCH	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
GUN TURRET DRIVE SWITCH	MANUAL	MANUAL	MANUAL	MANUAL	MANUAL	MANUAL	MANUAL	MANUAL	ANY POSITION	MANUAL OR EL UNCPL
LOADER'S HATCH	CLOSED	OPEN OR CLOSED	CLOSED	CLOSED	CLOSED	CLOSED	CLOSED	OPEN OR CLOSED	CLOSED	CLOSED

TASK 1A: ERECT CROSSWIND SENSOR

CONDITIONS/STIMULUS

System State: Table A, Column 1A.
Loader Location: Outside tank.
Initiating Stimulus: Order from T.C. to prepare Loader's Station for operation.

ACTION

Loader will:

1. Take off stowage strap from end of crosswind sensor (located at rear of turret deck).
2. Swing crosswind sensor straight up.
3. Hook two latches on crosswind base and push latches down to lock.
4. Buckle stowage strap and pull tight in stowed position.

MEASUREMENT

Time - Between end of initiating stimulus and completion of Step 4.

During Training:

Accuracy - As measured by the match between steps given above and steps performed by the Loader.

Time - Between end of initiating stimulus and completion of Step 4.

End of Training:

Accuracy - As indicated by:
- Sensor locked in upright position.
- Stowage strap buckled and pulled tight.

REFERENCES

TM 9-2350-255-10; p. 2-217

TASK 2A: INSTALL LOADER'S MACHINEGUN

CONDITIONS/STIMULUS

System State: Table A, Column 2A
Loader Location: Outside tank.
Initiating Stimulus: Order from T.C. to prepare Loader's Station for operation.

ACTION

Loader will:

1. Turn skate lock on top of the machinegun skate clockwise all the way, to lock the mount in place on the skate assembly.
2. Turn azimuth lock (located on mount receptor of skate) clockwise all the way, to keep machinegun mount from turning left or right.
3. If not already locked, pull out on ring on elevation lock pin (located on side of machinegun mount), rotate one quarter turn and release to stop machinegun from going up or down.
4. Slide machinegun rear mounting lugs (located on sides of machinegun) forward into mount.
5. Lower front of machinegun into mount.
6. Line up front holes of machinegun with holes in mount and insert front retaining pin through holes.

MEASUREMENT

Time - Between end of initiating stimulus and completion of Step 6.

During Training:

Accuracy - As measured by the match between steps given above and appropriate steps performed by the Loader.

Time - Between end of initiating stimulus and completion of Step 6.

End of Training:

Accuracy - As indicated by:

- Skate lock locked.
- Azimuth lock locked.
- Elevation lock locked.
- Machinegun in rear mounting lugs and retaining pin in place.

REFERENCES

TM 9-2350-255-10

BEFORE-OPERATIONS MAINTENANCE CHECKS AND SERVICES ON LOADER'S MACHINEGUN AND THE 105MM GUN TUBE

CONDITIONS/STIMULUS

System State: Table A, Column 3A.
Loader Location: Inside or outside Loader's station.
Initiating Stimulus: Order from T.C. to prepare Loader's Station for operation.

ACTION

Loader will:

1. To perform before-operations maintenance checks and services on Loader machinegun, do the following:
   a. Make sure Loader's machinegun is clear and safe (see Task 4J).
   b. Check the mounting, into which the machinegun is placed, for security.
      1) If mounting is secure, go to c., if not, notify T.C.
   c. Check operation of machinegun pintle mount, skate and skate and azimuth locks.
      1) If mount, skate and locks work properly, go to Step 2, if not, notify T.C.
2. To perform before-operations maintenance checks and services on 105MM gun tube, do the following:
   a. Make sure the 105MM gun is clear and safe (see Task 3H).
   b. Release bore evacuator as follows:
      1) Have gunner put main gun at zero elevation.
      2) Loosen and take out screw, lockwasher, and retainer key from front of the bore evacuator using a screwdriver.
      3) Turn shroud retaining nuts in front of the bore evacuator counterclockwise with spanner wrench.
      4) Loosen and take out screw, lockwasher, and retaining key from rear of bore evacuator using screwdriver.
      5) Take out bore evacuator plug from the side of the bore evacuator, using 9/16 inch key wrench.
   c. Clean 105MM main gun parts (located around the bore evacuator) as follows:

1) Turn bore evacuator, using the spanner wrench placed in the slot on the evacuator, so the plug hole lines up with the nearest gas port.
2) Clean the gas port using a soft wire.
3) Do steps 1. and 2. for each gas port.

d. Clean bore evacuator as follows:

NOTE A: If main gun was not fired during operation, there is no need to clean bore evacuator, except as specified by semi-annual scheduled maintenance.

1) Turn bore evacuator so that plug hole is pointing straight up.
2) Pour 8 ounces of rifle bore cleaning compound (RBCC) into the plug hole.
3) Put plug into bore evacuator using 9/16 inch key wrench.
4) Turn bore evacuator (using the spanner wrench placed in the slot on the evacuator, if necessary) clockwise then counterclockwise to dissolve all powder residue.
5) Turn bore evacuator so plug hole is on the bottom side of the main gun tube.
6) Take out plug from evacuator using 9/16 inch key wrench.
7) Drain rifle bore cleaning compound (RBCC) from bore evacuator.
8) Repreat Steps 1. through 7. using 4 ounces of PL-M oil in place of rifle bore cleaning compound (RBCC).

e. Secure bore evacuator as follows:

1) Screw in and tighten bore evacuator plug into bore evacuator using 9/16 inch key wrench.
2) Line rear screw hole (for retaining key screw) in bore evacuator with retaining key slot in main gun tube.
3) Screw in and tighten rear screw, lockwasher, and retaining key to bore evacuator using screwdriver.
4) Turn and tighten retaining nut in front of the bore evacuator clockwise using spanner wrench.
5) Screw in and tighten front screw, lockwasher, and retaining key to bore evacuator using screwdriver.

f. Service the main gun tube as follows:
   1) If the main gun was not fired by the end of the day's operation, wipe bore of tube using clean dry wiping rag.
   2) If the main gun was fired by the end of the day's operation, do the following:
      a) Clean main gun tube gas ports (see a,b,c,d and e, above).
      b) Have the gunner depress the main gun tube all the way.
      c) Clean main gun tube bore.
      d) Take out firing pin from breech block as follows:
         (1) Have T.C. make sure Vehicle Master Power switch is set to OFF.
         (2) Unlock main gun elevation travel lock (see Task 1C).
         (3) Make sure main gun is cleared (see Task 3H).
         (4) Close breech block (see Task 2G).
         (5) Push plunger (located on the firing spring retainer) to the right.
         (6) Turn the firing spring retainer (located beneath the chamber opening) counterclockwise until lug lines up with groove in breechblock.
         (7) Take out firing spring retainer from breechblock.

NOTE B: Firing pin spring may pop out.

         (8) Put screwdriver blade into retractor slot (located near the bottom of the breechblock).
         (9) Pull outward on screwdriver and take out firing pin (above the retractor) and retractor from breechblock.
      e) Wipe firing pin with clean dry rag.
      f) Put firing pin into breech block as follows:
         (1) Put firing pin retractor and firing pin into breechblock.
         (2) Put firing pin spring retainer into breechblock over the firing pin and firing pin retractor.
         (3) Push in spring retainer and turn clockwise until locked.

MEASUREMENT

Time - Between end of initiating stimulus and completion of Step 2.

During training: Accuracy - As measured by the match between given above and appropriate steps performed by the Loader.

Time - Between end of initiating stimulus and completion of Step 2.

End of training: Accuracy - As indicated by:

- Loader's machinegun clear and safe.
- Loader's machinegun mounting secure.
- Loader's machinegun mount, skate and locks working properly.
- 105MM gun clear and safe.
- 105MM gun gas ports cleaned.
- 105MM gun bore evacuator cleaned and secured.
- 105MM gun tube cleaned.
- 105MM gun firing pin cleaned and secured.

REFERENCES

TM 9-2350-255-10; p. 2-61, p.2-63, pp. 3-131 to 3-135, p. 3-140.

TASK 4A: OPERATE LOADER'S HATCH

CONDITIONS/STIMULUS

System State: Table A, Column 4A.
Loader Location: Outside tank or in Loader's Station.
Initiating Stimulus: Order from T.C. to prepare Loader's Station for operation or need to operate Loader's Hatch.

ACTION

Loader will:

NOTE A: Do not operate Loader's hatch while vehicle is moving except in case of emergency. If you must operate hatch while vehicle is moving, use extreme care.

1. To open Loader's hatch from outside:
   a. Unlock and take off padlock.
   b. Grasp handle on top of the hatch and pull hatch back until it locks in the intermediate-open position.
   c. Try to move hatch back and forth to make sure it is locked.
2. To close Loader hatch from inside of tank:
   a. Step up on Loader's seat.
   b. Pull and hold hatch-open lock handle (located above Loader's seat near hatch) towards you.
   c. Grasp hatch locking handle (located on hatch itself) and pull hatch closed.
   d. Release hatch-open lock handle and put handle in its spring clip retainer.
   e. Squeeze release tab (located at base of locking handle) and turn locking handle clockwise.
3. To open Loader hatch to intermediate-open position from inside of tank:
   a. Grasp hatch locking handle and squeeze release tab at base of handle.
   b. Turn handle counterclockwise and release.
   c. Push hatch up until it locks in intermediate-open position.
   d. Try to move hatch back and forth to make sure it is locked.
4. To open Loader's hatch to full-open position from the intermediate-open position from inside of tank:
   a. Stand on Loader's seat.
   b. Push and hold hatch-open lock handle to the rear with one hand.
   c. Push hatch all the way back against turret roof with other hand until it locks in place.

MEASUREMENT

Time - Between end of initiating stimulus and completion of appropriate step.

During training: Accuracy - As measured by the match between the steps given above and appropriate steps performed by the Loader.

Time - Between end of initiating stimulus and completion of appropriate step.

End of training: Accuracy - As indicated by:
. Loader's hatch locked in full-open, intermediate-open, or closed position.

REFERENCES

TM 9-2350-255-10; p. 2-216, p. 2-222 to 2-223.

TASK 5A: ENTER LOADER'S STATION

CONDITIONS/STIMULUS

System State: Table A, Column 5A.
Loader Location: Outside of tank.
Initiating Stimulus: Order from T.C. to prepare Loader's Station for operation, and completion of Task 4A, Step 1.

ACTION

Loader will:

1. Enter tank through hatch.
2. Make sure ready ammunition compartment door knee switch (located at Loader's right knee when seated) is up.
3. Check ammunition door track areas (located to Loader's right) and take out any objects in the track.
4. Make sure spent case ejection guard (located to Loader's left) is in the forward (safe position.
5. Make sure main gun breech (located above spent case ejection guard) is closed. If not, see Task 2G.
6. After all crewmembers have entered their stations, unlock turret traverse lock (see Task 1D), and main gun elevation lock (see Task 1C).

MEASUREMENT

Time - Between end of initiating stimulus and completion of Step 6.

During training:

Accuracy - As measured by the match between the steps given above and steps performed by the Loader.

Time - Between end of initiating stimulus and completion of Step 6.

End of training:

Accuracy - As indicated by:

- Loader in Loader's station.
- Ammunition compartment door knee switch up.
- Ammunition door track areas cleared.
- Spent case ejection guard in forward position.
- Main gun breech closed.
- All crewmembers in their stations with turret traverse lock and main gun elevation lock unlocked.

REFERENCES

TM 9-2350-255-10; p. 218.

TASK 6A: OPERATE DOMELIGHT

CONDITIONS/STIMULUS

System State: Table A, Column 6A.
Loader Location: In Loader's station.
Initiating Stimulus: Order from T.C. to prepare Loader's station for operation.

ACTION

Loader will:

1. Turn filter lever on left side of domelight (located above Loader's seat) down all the way for white light or up all the way for red light.
2. Turn knob on front of domelight fixture clockwise to turn domelight on. Continue to turn clockwise until light is bright enough.
3. Turn knob on front of domelight fixture counterclockwise to dim the light.
4. Turn knob on front of domelight fixture all the way counterclockwise to turn domelight off.

MEASUREMENT

During Training:
Time - Between end of initiating stimulus and completion of Step 4.
Accuracy - As measured by the match between the steps given above and appropriate steps performed by the Loader.

End of Training:
Time - Between end of initiating stimulus and completion of Step 4.
Accuracy - As indicated by:
. Proper Loader station illumination.

REFERENCES

TM 9-2350-255-10; p. 2-218.

TASK 7A: POWER UP LOADER'S STATION

CONDITIONS/STIMULUS

System State: Table A, Column 7A.
Loader Location: Inside Loader's station.
Initiating Stimulus: Order from T.C. to prepare Loader's station for operation.

ACTION

Loader will:

1. During Loader's panel lights test; on order from T.C., check that all lights on Loader's panel light; if not, do the following:
   a. Check Turret Networks Box (See Task 1M).
      1) If Loader panel lights now work go to Step 2.
      2) If Loader panel lights still do not come on, go to b.
   b. Replace Loader panel light which does not work as follows:
      1) Unscrew and take off lens from Loader's panel light.
      2) Pull out lamp from lens. Set lens aside for later use.
      3) Go to spare lamp box and get identical replacement lamp.
      4) Put new lamp into lens.
      5) Screw new lamp and lens into the same place on the panel from where the lens was taken.
      6) If replaced lamp lights, get rid of bad lamp and go to Step 2; if not, tell T.C.
2. Check that MAINGUN STATUS SAFE light (located on Loader's panel) is lit; if not, do the following:
   a. Make sure spent case ejection guard (located near end of maingun breechblock) is pushed all the way forward against the breech.
      1) If SAFE light comes on, go to Step 3.
      2) If SAFE light does not come on, go to b.
   b. Check turret networks box circuit breaker CB 20.
      1) If circuitbreaker is at OFF position, set to ON.
         a) If SAFE light comes on, go to Step 3.
         b) If SAFE light does not come on, tell T.C.
3. Make sure TURRET BLOWER switch (located on Loader's panel) is set to OFF.

4. Make sure GUN TURRET DRIVE switch (located on Loader's panel) is set to manual.
5. Check that GUN TURRET DRIVE MANUAL light (located on Loader's panel) is lit; if not, do the following:
   a. Check turret networks box circuit breakers CB 29 and CB 39.
      1) If either circuit breaker is at OFF position, set to ON.
         a) If MANUAL light comes on, go to Step 6.
         b) If MANUAL light does not come on, tell T.C.
      2) If both circuit breakers are at ON positions, tell T.C.
6. Turn amplifier (located near Loader's right shoulder) ON as follows:
   a. Set MAIN PWR switch to OFF.
   b. Set POWER CKT BKR switch to ON.
   c. Check that POWER CKT BKR POWER light is lit; if not, tell T.C.
   d. Set INT ACCENT switch to ON.
   e. Set RADIO TRANS switch to CDR + CREW.

MEASUREMENT

During Training:
Time - Between end of initiating stimulus and completion of Step 6.
Accuracy - As measured by the match between the steps given above and appropriate steps performed by the Loader.

End of Training:
Time - Between end of initiating stimulus and completion of Step 6.
Accuracy - As indicated by:
- All Loader panel lights lit during panel lights test.
- MAINGUN STATUS SAFE light lit.
- TURRET BLOWER switch set to OFF.
- GUN TURRET DRIVE MANUAL light lit.
- Amplifier MAIN PWR switch to NORMAL.
- POWER CKT CKR POWER light lit.
- INT ACCENT switch set to ON.
- RADIO TRANS switch set to CDR + CREW

OR
- T.C. notified.

REFERENCES

TM 9-2350-255-10; p. 2-218 to 2-219, p. 3-30, p. 3-32, p. 3-76.

TASK 8A: PREPARE INTERCOMMUNICATIONS EQUIPMENT FOR OPERATION

CONDITIONS/STIMULUS

System State: Table A, Column 8A.
Loader Location: Inside Loader's Station.
Initiating Stimulus: Order from T.C. to prepare Loader's station for operation.

ACTION

Loader will:

1. Wear CVC halmet and connect cables from helmet to bottom of intercom box.
2. Set lever on front of intercom box to INT ONLY.
3. Push lever on the left side of the CVC helmet to the rear.

MEASUREMENT

During Training:

Time - Between end of initiating stimulus and completion of Step 3.

Accuracy - As measured by the match between steps given above and appropriate steps performed by the Loader.

End of Training:

Time - Between end of initiating stimulus and completion of Step 3.

Accuracy - As indicated by:
. Ability to communicate as directed by T.C.

REFERENCES

TM 9-2350-255-10; p. 2-220.

TASK 9A: ADJUST LOADER'S SEAT AND PLATFORM

CONDITIONS/STIMULUS

System State: Table A, Column 9A.
Loader Location: Inside Loader's Station.
Initiating Stimulus: Order from T.C. to prepare Loader's Station for operation.

ACTION

Loader will:

1. Sit on seat.
2. Pull out and hold seat height adjusting knob at rear of seat support.
3. Move seat up or down using body weight to position thought to be most comfortable for loading main gun.
4. Let go of seat height adjusting knob.
5. Lift up and hold seat slide adjusting lever (located on left side of seat).
6. Slide seat forward all the way.
7. Let go of seat slide adjusting lever.
8. Lift up and pull out Loader's platform (located to the left of the Loader's seat).
9. Pull out and hold Loader's platform height adjusting knob at rear of seat support using right hand.
10. Grasp platform with left hand and move up or down to desired height.
11. Let go of platform height adjusting knob.
12. Stand on platform. It should be high enough to allow operation of Loader's machine gun. If height is not satisfactory, repeat steps 9 through 12.
13. Push platform down and into stowed position.
14. Lift up and hold seat slide adjusting lever (located on left side of seat).
15. Slide seat to the rear and forward again, if necessary, using body weight, to position thought to be most comfortable for loading main gun.
16. Let go of seat slide adjusting lever.
17. Check seat adjustment by going through motions of loading main gun (see Task 2H). Repeat Steps 1 through 4 and 14 through 16 if needed.

    NOTE A: The Loader's seat back is used for travel comfort. It is taken off for loading the main gun.

18. Pull up and take off seat back.
19. Stow seat back under Loader's seat.

MEASUREMENT

Time - Between end of initiating stimulus and completion of Step 19.

During training: Accuracy - As measured by the match between the steps given above and appropriate steps performed by the Loader.

Time - Between end of initiating stimulus and completion of Step 19.

End of training: Accuracy - As indicated by:

- Platform high enough to operate Loader's machinegun.
- Loader's seat adjusted to position most comfortable for loading machinegun.
- Loader's seat back stowed under Loader's seat.

REFERENCES

TM 9-2350-255-10; p. 2-220 to 2-221.

TASK 10A: PERFORM BEFORE-OPERATIONS MAINTENANCE CHECKS AND SERVICES ON THE REMOTE THERMOMETER, BREECH GROUP, MAIN GUN MOUNT, AND FIRING CIRCUITS AND TRIGGERS

CONDITIONS/STIMULUS

System State: Table A, Column 10A.
Loader Location: Inside Loader's Station.
Initiating Stimuli: Order from T.C. to prepare Loader's Station for operation and completion of Task 9A.

ACTION

Loader will:

1. To check the Remote Thermometer, do the following:
   a. Hold bare hand over sensor bulb at the end of the remote thermometer in the bustle ammunition storage.
   b. Have the Gunner check the movement of the needle on the thermometer-gage in the Gunner's station.
      1) If the thermometer works properly, continue with Step 2, if not, tell T.C.
2. To check the Breech Group, do the following:
   a. Operate the main gun breech operating group manually (see Tasks 1G and 2G).
   b. Make sure that no binding of the main gun breech block is present.
      1) If no binding is indicated, go to c; if there is binding, tell T.C.
   c. Check the main gun chamber, block, breech ring and extractors for wear, nicks, dirt or corrosion.
      1) If chamber, block, breech ring and extractors are O.K., go to Step 3, if not, tell T.C.
3. To check the Main Gun Mount, do the following:
   a. Check replenisher oil level (see Task 1H).
   b. Make sure replenisher oil hoses are secure at connections.
   c. Check gun mount (located beneath the oil level replenisher) for tightness of hardware, safety wire, seals and parts, (look for damage and leaks).

   NOTE A: During firing and immediately thereafter, leakage criteria for main gun recoil mechanism can be up to 15 drops in three minutes for up to a two-hour period after firing.

      1) If gun mount is O.K., go to Step 4; if not tell T.C.

4. To check the Firing Circuit and Triggers, do the following:
   a. Clear the main gun (see Task 3H).
   b. Close the main gun breech manually (see Task 2G).
   c. Have Gunner put the firing circuit tester in main gun breech.
   d. Move spent case ejection guard arm (located at end of main gun breechblock) to the rear.
   e. Have the Gunner arm the main gun circuit and check all trigger switches.
   f. Make sure that the firing circuit tester lamp comes on as the trigger is presses; if not, tell T.C.
   g. Move the spent case ejection guard forward to the safe position.
   h. Have the Gunner arm the main gun circuit and check all trigger switches.
   i. Make sure that the firing circuit tester lamp does not come on when trigger is pressed; if it does, tell T.C.

MEASUREMENT

Time - Between the end of the initiating stimuli and completion of Step 4.

During training: Accuracy - As measured by the match between the steps given above and the steps performed by the Loader.

Time - Between the end of the initiating stimuli and completion of Step 4.

End of training: Accuracy - As indicated by:
- Remote Thermometer working properly.
- No binding in breechblock of main gun.
- The main gun chamber, block and breeching and extractors are O.K.
- The main gun replenisher oil level is O.K.
- The main gun replenisher oil hoses are secure.
- The hardware, safety wire, seals and parts of the main gun mount are O.K.
- The firing circuit tester working properly in regards to the position of the spent case ejection guard.

OR . T.C. notified.

REFERENCES

TM 9-2350-255-10; pp. 2-60 to 2-62 and 2-237.

TASK 11A: INSTALL AND OPERATE LOADER'S PERISCOPE

CONDITIONS/STIMULUS

System State: Table A, Column 11A.
Loader Location: Inside Loader's Station.
Initiating Stimulus: Order from T.C. to prepare Loader's Station for operation.

ACTION

Loader will:

1. To install Loader's periscope:
   a. Make sure retainers (located on sides of periscope opening in hatch) are moved out of the way to clear periscope opening.
   b. Push periscope into opening in hatch until seated and hold in position.
   c. Turn retainers snug against periscope sides.
   d. Tighten thumb nuts on ends of retainers.
2. To operate Loader's periscope:
   a. Grasp knobs on each side of periscope.
   b. Turn knobs toward you to loosen mirror in center.
   c. Move mirror so top of turret barely shows in bottom of view through mirror.
   d. Turn knobs away from you to tighten mirror.

MEASUREMENT

Time - Between end of initiating stimulus and completion of Step 2.

During training:

Accuracy - As measured by the match between the steps given above and appropriate steps performed by the Loader.

Time - Between end of initiating stimulus and completion of Step 2.

End of training:

Accuracy - As indicated by:
- Periscope installed with retainers tight.
- Periscope adjusted so top of turret barely shows in bottom of view through mirror.

REFERENCES

TM 9-2350-255-10; p. 2-223, p.2-225

TASK 12A: POSITION LOADER'S GUARDS FOR FIRING

CONDITIONS/STIMULUS

System State: Table A, Column 12A.
Loader Location: Inside Loader's Station.
Initiating Stimuli: Order from T.C. to prepare Loader's Station for operation.

ACTION

Loader will:
1. Pull out and turn shoulder guard so it is between Loader's left shoulder and the main gun breech.
2. Swing toe guard near Loader's right foot into turret basket opening and lock in place.
3. Pull knee guard near Loader's left knee out of the stowed position and up into the protective position.

MEASUREMENT

During Training:
Time - Between end of initiating stimulus and completion of Step 3.
Accuracy - As measured by the match between the steps given above and appropriate steps performed by the Loader.

End of Training:
Time - Between end of initiating stimulus and completion of Step 3.
Accuracy - As indicated by:
- Shoulder and knee guards in protective positions.
- Toe guard locked in protective position.

REFERENCES

TM 9-2350-255-10-; p. 2-225.

MODULE B: OPERATE LOADER'S PANEL

CONDITIONS/STIMULUS

System State:	Table B, Column 1B.
Loader Location:	Inside Loader's station.
Initiating Stimuli:	Need to change main gun status or gun turret drive mode or to operate turret blower.

ACTION

Loader will:

1B. Operate Loader's panel.

TABLE B

POSITION OF CONTROLS FOR TASKS IN MODULE B WHEN TASK PERFORMANCE BEGINS

CONTROLS	POSITION OF CONTROLS TASKS 1B
AMPLIFIER MAIN POWER SWITCH	NORM
AMPLIFIER POWER CIRCUITBREAKER SWITCH	ON
AMPLIFIER INTERCOM ACCENT SWITCH	ON
AMPLIFIER RADIO TRANSMISSION SWITCH	CRD & CREW
INTERCOM LEVER	INT ONLY
TURRET POWER SWITCH	ON
DOMELIGHT	ON
TURRET BLOWER SWITCH	ON OR OFF
GUN TURRET DRIVE SWITCH	MANUAL
LOADER'S HATCH	CLOSED

TASK 1B: OPERATE LOADER'S PANEL

CONDITIONS/STIMULUS

System State: Table B, Column 1B.
Loader Location: In Loader's station
Initiating Stimuli: Need to change maingun status or gun turret drive mode or to operate turret blower.

ACTION

Loader will:

1. Swing ejection guard (located near end of maingun breech) to rear of turret.
2. Check that yellow ARMED light on Loader's panel is lit; if not, do the following:
   a. Have gunner make sure GUN SELECT switch at Gunner's master panel is set to MAIN.
      1) If ARMED light comes on, go to Step 3.
      2) If ARMED light does not come on, go to b.
   b. Make sure GUN/TURRET DRIVE switch at Loader's panel is set to POWERED or MANUAL.
      1) If ARMED light comes on, go to Step 3.
      2) If ARMED light does not come on, go to c.
   c. Check turret networks box (located to Loader's right) circuit breaker CB 20.

   NOTE A: If any other circuit breaker is at OFF position, tell T.C. and check turret networks box (See Task 1M) after completing this step.

      1) If circuit breaker is at OFF position, set to ON.
         a) If ARMED light comes on, go to Step 3.
         b) If ARMED light does not come on, go to d.
      2) If circuit breaker is at ON position, go to d.
   d. Make sure spent case ejection guard is all the way to rear.
      1) If ARMED light comes on, go to Step 3.
      2) If ARMED light does not come on, go to e.
   e. Have T.C. press PANEL LIGHTS TEST button at commander's panel and check ARMED light at Loader's panel.
      1) If light does not light, replace lamp (see Task 6A, Step 1, b, 1)-5)).
         a) If ARMED light stays on after the test, go to Step 3.
         b) If ARMED light does not stay on after the test, tell T. C.

3. Swing ejection guard forward toward the breech.
4. Check that white SAFE light on Loader's panel is lit; if not, do the following:
   a. Check turret networks box (located to Loader's right) circuit breaker CB 20.

   NOTE B: If any other circuit breaker is at OFF position tell T.C. and check turret networks box (see Task 1M) after completing this step.

      1) If circuit breaker is at OFF position, set to ON.
         a) If SAFE light comes on, go to Step 5.
         b) If SAFE light does not come on, go to b.
      2) If circuit breaker is at ON position, go to b.

   b. Make sure spent case ejection guard is folded all the forward against the breech.
      1) If SAFE light comes on, go to Step 5.
      2) If SAFE light does not come on, go to c.
   c. Have T.C. press PANEL LIGHTS TEST button at commander's panel and check SAFE light.
      1) If light does not light, replace lamp (See Task 6A, Step 1, b, 1)-5)).
         a) If SAFE light stays on after the test, go to Step 5.
         b) If SAFE light does not stay on after the test, tell T.C.
      2) If light lights, tell T.C.
5. Turn TURRET BLOWER switch on Loader's panel to ON for manual use.
6. Turn TURRET BLOWER switch to OFF for automatic use.
7. Do the following for MANUAL main gun and turret operation:
   a. Set GUN TURRET DRIVE switch on Loader's panel to MANUAL.
   b. Check that MANUAL light on Loader's panel is lit. If not, do the following:
      1) Check turret networks box (located to Loader's right) circuit breakers CB 29 and CB 30.

   NOTE C: If any other circuit breaker is at OFF position tell T.C. and check turret networks box (see Task 1M) after completing this step.

      a) If either circuit breaker is at OFF position, set to ON.
         1) If MANUAL light comes on, go to step 8.

2) If MANUAL light does not come on, go to 2).

b) If all circuit breakers are at ON position, go to Step 2).

2) Have T.C. press PANEL LIGHTS TEST button at commander's panel and check MANUAL light at Loader's panel.

a) If light does not light, replace lamp (See Task 6A, Step 1, b, 1)-5)).

1) If MANUAL light stays ON after the test, go to Step 8.

2) If light lights, tell T.C.

NOTE D: Leave GUN TURRET DRIVE switch in MANUAL position when leaving tank.

8. Do the following for POWERED MAIN GUN and turret operation:

a. Set GUN TURRET DRIVE switch to POWERED.

b. Check that POWERED light on Loader's panel is lit; if not, do the following:

1) Have GUNNER make sure GUN SELECT switch on gunner's MASTER PANEL is set to NORMAL or EMER.

a) If POWERED light comes on, go to Step 9.

b) If POWERED light does not come on, go to 2).

2) Check turret networks box (located to Loader's right) circuit breakers CB 31 and CB 30.

NOTE E: If any other circuit breaker is at OFF position tell T.C. and check turret networks box (See Task 1M) after completing this step.

a) If any circuit breaker is at OFF position, set to ON.

1) If POWERED light comes on, go to Step 9.

2) If POWERED light does not come on, go to 3).

b) If all circuit breakers are at ON position, go to 3).

3) Have T.C. press PANEL LIGHTS TEST button at commander's panel and check POWERED light at loader's panel.

a) If light does not light, replace lamp (See Task 6A, Step 1, b, 1)-5)).

1) If POWERED light stays on after the test, go to Step 9.

2) If POWERED light does not stay on after the test, tell T.C.

b) If light lights, tell T.C.

9. Do the following to interrupt POWERED operation

for loading main gun or coaxial machinegun:

a. Swing ejection guard forward toward the breech.
b. Check that white SAFE light on Loader's panel is lit; if not, do troubleshooting (See Step 4).

NOTE F: Keep body away from the maingun breech after setting the GUN TURRET DRIVE switch to EL UNCPL. Gun may move when GUNNER'S or T.C.'s palm switches are squeezed.

c. Set GUN TURRET DRIVE switch on Loader's panel to EL UNCPL.
d. Check that EL UNCPL light on Loader's panel is lit; if not, do the following:
    1) Check turret networks box (located to Loader's right) circuit breakers CB 20, CB 29 and CB 30.

NOTE G: If any other circuit breaker is at OFF position, tell T.C. and check turret networks box (See Task 1M) after completing this step.

    a) If any circuit breaker is at OFF position, set to ON.
        1) If EL UNCPL light comes on, continue normal operations.
        2) If EL UNCPL light does not come on, go to 2).
    b) If all circuit breakers are at ON position, go to Step 2).
    2) Make sure spent case ejection guard is pushed all the way forward against the breech.
    a) If EL UNCPL light comes on, continue normal operations.
    b) If EL UNCPL light does not come on, go to 3).
    3) Have T.C. press PANEL LIGHTS TEST button at commander's panel and check EL UNCPL light at loader's panel.
    a) If light does not light, replace lamp (see Task 6A, Step 1, b, 1)-5)).
        1) If EL UNCPL light stays on after the test, continue normal operation.
        2) If EL UNCPL light does not stay on after the test, tell T.C.

MEASUREMENT

During Training:

Time - Between end of initiating stimulus and completion of appropriate step.

Accuracy - As measured by the match between the steps given above and appropriate steps performed by the Loader.

End of Training:

Time - Between end of initiating stimulus and completion of appropriate step.

Accuracy - As indicated by:

- . ARMED light lit with ejection guard rearward position.
- . SAFE light lit with ejection guard in forward position.
- . Turret blower on with the TURRET BLOWER switch in the ON position.
- . Turret blower on only when Gunner's GUN SELECT switch is in COAX position with the TURRET BLOWER switch in the OFF position.
- . MANUAL and POWERED lights working properly in conjunction with position of GUN TURRET DRIVE switch.
- . SAFE and EL UNCPL lights on with GUN TURRET DRIVE switch in EL UNCPL position.

OR . T.C. notified.

REFERENCES

TM 9-2350-255-10; p. 2-226 to 2-227; p. 3-30 to 3-33.

MODULE C: OPERATE MAIN GUN ELEVATION TRAVEL LOCK

CONDITIONS/STIMULUS

System State: Table C, Column 1C.
Loader Location: In Loader's Station.
Initiating Stimulus: Need to lock or unlock the Main Gun Elevation Travel lock.

ACTION

Loader will:

1C. Unlock Main Gun Elevation Travel Lock.
2C. Lock Main Gun Elevation Travel Lock

TABLE C

POSITION OF CONTROLS FOR TASKS IN
MODULE C WHEN TASK PERFORMANCE BEGINS

CONTROLS	POSITION OF CONTROLS TASKS 1C	2C
AMPLIFIER MAIN POWER SWITCH	NORM	NORM
AMPLIFIER POWER CIRCUITBREAKER SWITCH	ON	ON
AMPLIFIER INTERCOM ACCENT SWITCH	ON	ON
AMPLIFIER RADIO TRANSMISSION SWITCH	CDR AND CREW	CRD AND CREW
INTERCOM LEVER	INT ONLY	INT ONLY
TURRET POWER SWITCH	ON OR OFF	ON OR OFF
DOMELIGHT	ON	ON
TURRET BLOWER SWITCH	OFF	OFF
GUN TURRET DRIVE SWITCH	ANY POSITION	ANY POSITION
LOADER'S HATCH	CLOSED	CLOSED

TASK 1C: UNLOCK THE MAIN GUN ELEVATION TRAVEL LOCK

CONDITIONS/STIMULUS

System State: Table C, Column 1C.
Loader Location: Inside Loader's Station.
Initiating Stimulus: Need to unlock the main gun elevation travel lock.

ACTION

Loader will:

1. Set GUN TURRET DRIVE SWITCH (located on Loader's panel) to MANUAL.
2. Check that MANUAL light (located on Loader's panel) is lit; if not, do troubleshooting (see Task 1B, Step 7).
3. Do the following to unlock main gun elevation travel lock (located on main gun):
   a. Press and hold button on end of lock pin (located at lower end of the main gun travel lock).
   b. Take out lock pin from main gun strut.
   c. Swing main gun elevation travel lock up into roof strut (located above main gun).
   d. Line up holes in gun elevation travel lock and roof strut.
   e. Put lock pin into roof strut.

MEASUREMENT

During Training:

Time - Between end of initiating stimulus and completion of Step 3.

Accuracy - As measured by the match between the steps given above and the steps performed by the Loader.

End of Training:

Time - Between end of initiating stimulus and completion of Step 3.

Accuracy - As indicated by:
- Gun elevation travel lock locked in roof strut with lock pin.

REFERENCES

TM 9-2350-255-10; p.2-228.

TASK 2C: LOCK THE MAIN GUN ELEVATION TRAVEL LOCK

CONDITIONS/STIMULUS

System State: Table C, Column 2C.
Loader Location: Inside Loader's Station.
Initiating Stimulus: Need to lock the main gun elevation travel lock.

ACTION

Loader will:

1. Set GUN TURRET DRIVE SWITCH (located on Loader's panel) to MANUAL.
2. Check that MANUAL light (located on Loader's panel) is lit; if not, do troubleshooting (see Task 1B; Step 7).
3. Do the following to lock main gun elevation travel lock (located above main gun):
   a. Press and hold button on end of lock pin (located at end of the main gun travel lock).
   b. Take out lock pin from roof strut.
   c. Swing main gun elevation travel lock down into main gun strut (located on main gun.

   NOTE A: Gunner may have to manually elevate or depress main gun to help line up holes in main gun elevation travel lock and main gun strut.

   d. Line up holes in main gun elevation travel lock and main gun strut.
   e. Put lock pin into main gun strut.

MEASUREMENT

During Training:

Time - Between end of initiating stimulus and completion of Step 3.

Accuracy - As measured by the match between the steps given above and the steps performed by the Loader.

End of Training:

Time - Between end of initiating stimulus and completion of Step 3.

Accuracy - As indicated by:
. Gun elevation travel lock locked in main gun strut with lock pin.

REFERENCES

TM 9-2350-255-10; p.2-228

MODULE D: OPERATE TURRET TRAVERSE LOCK

CONDITIONS/STIMULUS

System State: Table D, Column 1D.
Loader Location: In Loader's station.
Initiating Stimuli: Need to lock or unlock the Turret Traverse Lock.

ACTION

Loader will:

1D. Unlock the turret Traverse Lock.
2D. Lock the turret Traverse Lock.

TABLE D

POSITION OF CONTROLS FOR TASKS IN MODULE D WHEN TASK PERFORMANCE BEGINS

CONTROLS	POSITION OF CONTROLS TASKS 1D	2D
AMPLIFIER MAIN POWER SWITCH	NORM	NORM
AMPLIFIER POWER CIRCUITBREAKER SWITCH	ON	ON
AMPLIFIER INTERCOM ACCENT SWITCH	ON	ON
AMPLIFIER RADIO TRANSMISSION SWITCH	CDR + CREW	CDR + CREW
INTERCOM LEVER	INT ONLY	INT ONLY
TURRET POWER SWITCH	ON OR OFF	ON OR OFF
DOMELIGHT	ON	ON
TURRET BLOWER SWITCH	OFF	OFF
GUNTURRET DRIVE SWITCH	ANY POSITION	ANY POSITION
LOADER'S HATCH	CLOSED	CLOSED

TASK 1D: UNLOCK TRAVERSE LOCK

CONDITIONS/STIMULUS

System State: Table D, Column 1D.
Loader Location: In Loader's Station.
Initiating Stimuli: The need to unlock the Traverse lock.

ACTION

Loader will:
1. Lift up Traverse lock handle (located near the Loader's right knee).
2. Turn the Traverse Lock handle toward Loader's Station (counterclockwise) to UNLOCKED position (make sure handle locks in place and the word UNLOCKED is showing).

MEASUREMENT

During Training:
Time - Between end of initiating stimulus and completion of Step 2.
Accuracy - As measured by the match between the steps given above and appropriate steps performed by Loader.

End of Training:
Time - Between end of initiating stimulus and completion of Step 2.
Accuracy - As indicated by:
. Traverse Lock handle locked in place with the word UNLOCKED showing.

REFERENCES

TM 9-2350-255-10; p. 2-229.

TASK 2D: LOCK TRAVERSE LOCK

CONDITIONS/STIMULUS

System State: Table D, Column 2D.
Loader Location: In Loader's Station.
Initiating Stimuli: The need to lock the Traverse Lock.

ACTION

NOTE A: The T.C. or Gunner may have to traverse the turret slightly left or right for the Traverse Lock handle to drop into detent position.

1. Lift up the Traverse Lock handle (located near the Loader's right knee).
2. Turn the Traverse Lock handle away from Loader's station (clockwise) to LOCKED position (with the word LOCKED showing).
3. Check that the Traverse Lock handle is down into detent (locked) position. If not, have the T.C. or gunner move the turret slightly.

MEASUREMENT

During Training:
Time - Between end of initiating stimulus and completion of Step 3.
Accuracy - As measured by the match between the steps given above and appropriate steps performed by the Loader.

End of Training:
Time - Between end of initiating stimulus and completion of Step 3.
Accuracy - As indicated by:
. Traverse Lock handle in detent (locked) position with the word LOCKED showing.

REFERENCES

TM 9-2350-255-10; p. 2-229.

MODULE E: OPERATE AMMUNITION COMPARTMENT DOORS

CONDITIONS/STIMULUS

System State: Table E, Column 1E.
Loader Location: In Loader's Station.
Initiating Stimuli: Loading, unloading or checking ammunition.

ACTION

Loader will:

1E. Automatically operate the ready ammunition compartment door.
2E. Manually open the ready ammunition compartment door.
3E. Manually close the ready ammunition compartment door.
4E. Open the semi-ready ammunition compartment door.
5E. Close the semi-ready ammunition compartment door.
6E. Open the hull ammunition compartment door.
7E. Close the hull ammunition compartment door.
8E. Identify main gun ammunition.

TABLE E

POSITION OF CONTROLS FOR TASKS IN MODULE E WHEN TASK PERFORMANCE BEGINS

CONTROLS	POSITION OF CONTROLS TASKS 1E	2E	3E	4E	5E	6E	7E	8E
AMPLIFIER MAIN POWER SWITCH	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM
AMPLIFIER POWER CIRCUITBREAKER SWITCH	ON	ON	ON	ON	ON	ON	ON	ON
AMPLIFIER INTERCOM ACCENT SWITCH	ON	ON	ON	ON	ON	ON	ON	ON
AMPLIFIER RADIO TRANSMISSION SWITCH	CDR + CREW	CDR + CREW	CDR + CREW	CDR + CREW	CDR + CREW	CDR + CREW	CDR + CREW	CDR + CREW
INTERCOM LEVER	INT ONLY	INT ONLY	INT ONLY	INT ONLY	INT ONLY	INT ONLY	INT ONLY	INT ONLY
TURRET POWER SWITCH	ON	ON	ON	ON	ON	ON	ON	ON
DOMELIGHT	ON	ON	ON	ON	ON	ON	ON	ON
TURRT BLOWER SWITCH	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
GUNTURRET DRIVE SWITCH	ANY POSITION	ANY POSITION	ANY POSITION	ANY POSITION	ANY POSITION	ANY POSITION	ANY POSITION	ANY POSITION
LOADER'S HATCH	CLOSED	CLOSED	CLOSED	CLOSED	CLOSED	CLOSED	CLOSED	OPEN

TASK 1E: AUTOMATICALLY OPERATE THE READY AMMUNITION COMPARTMENT DOOR

CONDITIONS/STIMULUS

System State: Table E, Column 1E.
Loader Location: In the Loader's Station.
Initiating Stimuli: Loading, Unloading or checking the ready ammunition compartment.

ACTION

Loader will:

NOTE A: Keep hands, equipment and small objects away from ammunition door track.

1. Turn knee switch (located near the Loader's right knee) down.
2. Press and hold knee switch using right knee to open ready ammunition compartment door (located on Loader's right side).
3. Move right knee from knee switch to close door.

NOTE B: If the ready ammunition compartment door jams, open door manually (see Task 2E).

MEASUREMENT

During Training:
Time - Between end of initiating stimulus and completion of Step 3.
Accuracy - As measured by the match between the steps given above and appropriate steps performed by the Loader.

End of Training:
Time - Between end of initiating stimulus and completion of Step 3.
Accuracy - As indicated by:
- The ready ammunition compartment door opening when knee switch is pressed and closing when knee switch is let go.

REFERENCES

TM 9-2350-255-10; p. 2-229.

TASK 2E: MANUALLY OPEN THE READY AMMUNITION COMPARTMENT DOOR

CONDITIONS/STIMULUS

System State: Table E, Column 2E.
Loader Location: In Loader's Station.
Initiating Stimuli: Loading, unloading or checking the ready ammunitions compartment when automatic door operation is inoperative or not wanted.

ACTION

Loader will:

1. Swing knee switch (located near the Loader's right knee) up.
2. Push in and hold button on the end of the release pin which holds the actuator shaft (located near the upper left corner of the ready ammunition compartment door at Loader's right).
3. Take out the release pin from the actuator shaft.
4. Push down and hold door latch (located near the upper left corner of the ready ammunition door) using left hand.
5. Put right hand in cutout on the right side of the ready ammunition compartment door.
6. Slide ready ammunition compartment door left to open.
7. Line up hole on the lower side of the ready ammunition compartment door with the lock shaft (located near the lower left corner of the door frame).
8. Grasp and turn lock shaft 1/4 turn counterclockwise to release lock shaft into ready ammunition compartment door hole.

MEASUREMENT

During Training:
Time - Between end of initiating stimulus and compltion of Step 8.
Accuracy - As measured by the match between the steps given above and appropriate steps performed by the Loader.

End of Training:
Time - Between end of initiating stimulus and completion of Step 8.
Accuracy - As indicated by:
. Ready ammunition compartment door locked open with lock shaft.

REFERENCES

TM 9-2350-255-10; p. 2-230.

TASK 3E: MANUALLY CLOSE THE READY AMMUNITION COMPARTMENT DOOR

CONDITIONS/STIMULUS

System State: Table E, Column 3E.
Loader Location: In Loader's Station.
Initiating Stimuli: Completion of loading, unloading or checking of ready ammunitions compartment when automatic door operation is inoperative or not wanted.

ACTION

1. Pull and turn lock shaft (located near the lower left corner of the door frame) 1/4 turn clockwise until shaft is straight up to release ready ammunition compartment door at Loader's right.
2. Using the cutout on the right side of the door, slide ready ammunition compartment door to the right to close.
3. Put the release pin into actuator shaft (located near the upper left corner of the ready ammunition compartment door).

MEASUREMENT

During Training:
Time - Between end of initiating stimulus and completion of Step 3.
Accuracy - As measured by the match between the steps given above and appropriate steps performed by the Loader.

End of Training:
Time - Between end of initiating stimulus and completion of Step 3.
Accuracy - As indicated by:
. Ready ammunition compartment door closed with release pin in actuator shaft.

REFERENCES

TM 9-2350-255-10; p. 2-230.

TASK 5E: CLOSE THE SEMI-READY AMMUNITION COMPARTMENT DOOR

CONDITIONS/STIMULUS

System State: Table E, Column 5E.
Loader Location: In Loader's Station.
Initiating Stimuli: Completion of loading, unloading or checking the semi-ready ammunition compartment.

ACTION

Loader will:

1. Pull the semi-ready ammunition door (located on Loader's right) to the left, as far as possible, using the inside and outside cut outs.
2. Turn handle (located below and to the left of the ready ammunition compartment opening) clockwise until the word *LOCKED* is right side up.
3. Close ready ammunition compartment door (see Task 3E).

MEASUREMENT

During Training:
Time - Between end of initiating stimulus and completion of Step 3.
Accuracy - As measured by the match between the steps given above and appropriate steps performed by the Loader.

End of Training:
Time - Between end of initiating stimulus and completion of Step 3.
Accuracy - As indicated by:
- The semi-ready ammunition door closed with the lock handle showing the word LOCKED in the upright position.
- The ready ammunition compartment door closed.

REFERENCES

TM 9-2350-255-10; p. 2-231.

TASK 6E: OPEN HULL AMMUNITION COMPARTMENT DOOR

CONDITIONS/STIMULUS

System State: Table E, Column 6E.
Loader Location: In Loader's Station.
Initiating Stimuli: Loading, unloading or checking hull ammunition compartment.

ACTION

Loader will:

1. Have the gunner traverse the turret manually so opening in turret lines up with hull ammunition compartment door (located below the ready ammunition door).
2. Make sure turret traverse lock is locked (see Task 2D).
3. Lock main gun elevation lock (see Task 2C).
4. Swing knee switch (located near Loader's right knee) up.
5. Swing Loader's toe guard back against seat.
6. Pull out and hold the hull ammunition compartment door latch (located near the middle left side of the door) with one hand.
7. With the other hand, grasp the cut out on the right side of the hull door, and slide the hull ammunition compartment door left to the open position.
8. Let go of the hull door latch.

MEASUREMENT

During Training:
Time - Between end of initiating stimulus and completion of Step 8.
Accuracy - As measured by the match between the steps given above and appropriate steps performed by the Loader.

End of Training:
Time - Between end of initiating stimulus and completion of Step 8.
Accuracy - As indicated by:
- Turret traverse lock locked.
- Main gun elevation lock locked.
- Knee switch up.
- Loader's toe guard against seat.
- Hull ammunition compartment door opened.

REFERENCES

TM 9-2350-255-10; p. 2-232.

TASK 7E: CLOSE HULL AMMUNITION COMPARTMENT DOOR

CONDITIONS/STIMULUS

System State: Table 7, Column 7E
Loader Location: In Loader's Station
Initiating Stimuli: Completion of loading, unloading, or checking hull ammunition compartment.

ACTION

Loader will:

1. Pull out and hold the hull ammunition compartment door latch (located near the middle left side of the door) with one hand.
2. With the other hand, grasp the cut out on the right side of the hull ammunition compartment door and slide the door right to the closed position.
3. Line up the hole in hull ammunition compartment door with the door latch.
4. Let go of the hull ammunition compartment door latch.

MEASUREMENT

During Training:

Time - Between end of initiating stimulus and completion of Step 4.
Accuracy - As measured by the match between the steps given above and appropriate steps performed by the Loader.

End of Training:

Time - Between end of initiating stimulus and completion of Step 4.
Accuracy - As indicated by:
- The hull ammunition compartment door closed and secured with hull door latch.

REFERENCES

TM 9-2350-255-10; p. 2-232.

TASK 8E: IDENTIFY MAIN GUN AMMUNITION

CONDITIONS/STIMULUS

System State: Table 7, Column 8E.
Loader's Location: In Loader's station.
Initiating Stimuli: Order from the T.C. to receive and stow main gun ammunition.

ACTION

Loader will:

NOTE A: Hold ammunition carefully by protecting primer from being struck by holding hand over it.

NOTE B: Ammunition must be stowed in rack nose end first.

1. Identify SABOT ammunition as black with white markings.
2. Identify BEEHIVE ammunition as olive drab w/one white band, white markings.
3. Identify HEP ammunition as olive drab w/one white band, yellow markings.
4. Identify HEAT ammunition as black w/yellow markings.

MEASUREMENT

During Training:

Time - Between initiating stimuli and completion of Step 4.

Accuracy - Accuracy as indicated by the match between the identification given above and the Loader's identification of the various rounds.

End of Training:

Time - Between initiating stimuli and completion of Step 4.

Accuracy - As measured by:
- Correctly stowing main gun ammunition according to the unit loading plan.
- Correctly set dics ammunition identifier when stowing rounds in compartment racks.
- Loading the correct ammunition in response to fire commands.

REFERENCES

TM 9-2350-255-10; p. 5-2.

MODULE F: OPERATE MAIN GUN AMMUNITION STOWAGE RACKS

CONDITIONS/STIMULUS

System State: Table F, Column 1F.
Loader Location: In Loader's Station.
Initiating Stimuli: Order from T.C. to load or unload 105 mm ammunition.

ACTION

Loader will:

1F. Stow 105 mm ammo in the hull ammunition compartment
2F. Stow 105 mm ammo in the ready ammunition compartment
3F. Stow 105 mm ammo in the semi-ready ammunition compartment
4F. Stow 105 mm ammo in the turret floor ready racks
5F. Remove an 105 mm ammo round from the ammunition stowage racks

TABLE F

POSITION OF CONTROLS FOR TASKS IN MODULE F WHEN TASK PERFORMANCE BEGINS

CONTROLS	POSITION OF CONTROLS TASKS 1F	2F	3F	4F	5F
AMPLIFIER MAIN POWER SWITCH	NORM	NORM	NORM	NORM	NORM
AMPLIFIER POWER CIRCUITBREAKER SWITCH	ON	ON	ON	ON	ON
AMPLIFIER INTERCOM ACCENT SWITCH	ON	ON	ON	ON	ON
AMPLIFIER RADIO TRANSMISSION SWITCH	CRD + CREW	CRD + CREW	CRD + CREW	CRD + CREW	CRD + CREW
INTERCOM LEVER	INT ONLY	INT ONLY	INT ONLY	INT ONLY	INT ONLY
TURRET POWER SWITCH	ON	ON	ON	ON	ON
DOMELIGHT	ON	ON	ON	ON	ON
TURRET BLOWER SWITCH	OFF	OFF	OFF	OFF	OFF
GUNTURRET DRIVE SWITCH	ANY POSITION	ANY POSITION	ANY POSITION	ANY POSITION	ANY POSITION
LOADER'S HATCH	CLOSED	CLOSED	CLOSED	CLOSED	CLOSED

TASK 1F: STOW 105mm AMMO IN THE HULL AMMUNITION COMPARTMENT

CONDITIONS/STIMULUS

System State: Table F, Column 1F.
Loader Location: In Loader's station.
Initiating Stimuli: Order from T.C. to stow 105 mm ammunition in hull compartment.

ACTION

Loader will:

NOTE A: Handle ammunition carefully by protecting primer from being struck by holding hand over it.

NOTE B: Ammunition must be stowed in rack nose end first.

1. Open hull ammunition compartment door (See Task 6E).
2. Stow eight rounds in hull stowage compartment racks.
3. Rotate each indicator disc aside each rack to show type of ammunition as follows:
   a. Set S on top for SABOT.
   b. Set B on top for BEEHIVE.
   c. Set P on top for HEP.
   d. Set H on top for HEAT.
4. Close hull ammunition door (See Task 7E).

MEASUREMENT

During Training:
Time - Between end of initiating stimulus and completion of Step 4.
Accuracy - As measured by the match between the steps given above and the steps performed by the Loader.

End of Training:
Time - Between end of initiating stimulus and completion of Step 4.
Accuracy - As indicated by:
- 105mm ammo stowed in hull ammunition compartment with nose end in first.
- Ammunition rack indicator discs correctly showing the type of ammo stowed.
- Hull ammunition compartment door closed.

REFERENCES

TM 9-2350-255-10; p. 2-233.

TASK 2F: STOW 105MM AMMO IN THE READY AMMUNITION COMPARTMENT

CONDITIONS/STIMULUS

System State: Table F, Column 2F.
Loader location: In Loader's station.
Initiating Stimuli: Order from T.C. to stow 105mm ammunition in ready compartment.

ACTION

Loader will:

NOTE A: Handle ammunition carefully by protecting the primer from being struck by holding hand over it.

NOTE B: Ammunition must be stowed in rack nose end first.

1. Open ready ammunition compartment door. (See Task 2E).
2. Load two rounds in the two rotary rack tubes, located on the bottom of first full stack of tubes.
3. Rotate each indicator disc aside each rack to show type of ammo, as follows:
   a. Set S on top for SABOT.
   b. Set B on top for BEEHIVE.
   c. Set P on top for HEP.
   d. Set H on top for HEAT.
4. Press in on lever (located near the lower left corner of the rack) and rotate rack to gain access to the next two tubes.
5. Load two rounds in the two rotary rack tubes located to the right of those loaded in Step 2.
6. Rotate each indicator disc to show type of ammunition (See Step 3).
7. Load 18 rounds in remaining ready ammunition compartment tubes.
8. Rotate each indicator disc to show type of ammunition (See Step 3).
9. Close ready ammunition compartment door (See Task 3E).

MEASUREMENT

During Training:

Time - Between end of initiating stimulus and completion of Step 9.
Accuracy - As measured by the match between the steps given above and the steps performed by the Loader.

End of Training:

Time - Between end of initiating stimulus and completion of Step 9.

Accuracy - As indicated by:

- 105mm ammo stowed in the ready ammunition compartment with nose end first.
- Ammunition rack indicator discs correctly showing the type of ammo stowed.
- The ready ammunition compartment door closed.

REFERENCES

TM 9-2350-255-10; p. 2-234.

TASK 3F: STOW 105MM AMMO IN THE SEMI-READY AMMUNITION COMPARTMENT

CONDITIONS/STIMULUS

System State: Table F, Column 3F.
Loader Location: In Loader's station.
Initiating Stimuli: Order from T.C. to stow 105mm ammunition in semi-ready compartment.

ACTION

Loader will:

NOTE A: Handle ammunition carefully by protecting the primer from being struck by holding hand over it.

NOTE B: Ammunition must be stowed in rack nose end first.

1. Open semi-ready ammunition compartment door (See Task 4E).
2. Load 22 rounds in semi-ready ammunition compartment and rotate discs to show type of ammunition (See Task 2F, Steps 2 through 8).
3. Close semi-ready ammunition compartment door (See Task 5E).

MEASUREMENT

During Training:

Time - Between end of initiating stimulus and completion of Step 3.
Accuracy - As measured by the match between the steps given above and steps performed by the Loader.

End of Training:

Time - Between end of initiating stimulus and completion of Step 3.
Accuracy - As indicated by:
- 105mm ammo stowed in the semi-ready ammunition compartment with nose end in first.
- The ammunition rack indicator discs correctly showing the type of ammo stowed.
- The semi-ready ammunition compartment door closed.

REFERENCES

TM 9-2350-255-10; p. 2-234.

TASK 4F: STOW 105MM AMMO IN THE TURRET FLOOR READY RACKS

CONDITIONS/STIMULUS

System State: Table F, Column 4F.
Loader Location: In Loader's station.
Initiating Stimuli: Order from T.C. to stow 105mm ammunition in turret floor ready racks.

ACTION

Loader will:

NOTE A: Handle ammunition carefully by protecting the primer from being struck by holding hand over it.

NOTE B: Ammunition must be stowed in rack nose end first.

1. Remove quick release pin (located between the two lower ammunition tubes).
2. Move the bottom left swing tube to the right.
3. Load one round in the swing tube.
4. Rotate indicator disc aside the swing tube as follows:
   a. Set S on top for SABOT.
   b. Set B on top for BEEHIVE.
   c. Set P on top for HEP.
   d. Set H on top for HEAT.
5. Move swing tube back to normal position.
6. Load two rounds in remaining tubes.
7. Rotate each indicator disc to show type of ammunition (See Step 4).

MEASUREMENT

During Training:
Time - Between end of initiating stimulus and completion of Step 7.
Accuracy - As measured by the match between the steps given above and the steps performed by the Loader.

End of Training:
Time - Between end of initiating stimulus and completion of Step 7.
Accuracy - As indicated by:
- Three rounds of 105mm ammo stowed in the turret floor ready racks with nose end in first.
- The ammunition rack indicator discs correctly showing the type of ammo stowed.

REFERENCES

TM 9-2350-255-10; p. 2-234.

TASK 5F: REMOVE AN 105MM ROUND FROM THE AMMUNITION STOWAGE RACKS

CONDITIONS/STIMULUS

System State: Table F, Column 5F.
Loader Location: In Loader's station.
Initiating Stimuli: Order from T.C. to remove a round from an ammunition stowage rack.

ACTION

Loader will:

NOTE A: Do not drop, throw or drag ammunition and/or containers.

1. Open ammunition compartment door as follows:
   a. For ready ammunition compartments see Task 1E (automatic) or Task 2E (manual).
   b. For semi-ready ammunition compartment see Task 4E.
   c. For hull ammunition compartment, see Task 6E.
2. Push spring clip on the right side of the rack away from round and push in plunger with the indicator disc on the end.

   NOTE B: The round will move out from tube several inches when plunger is pushed in.

3. Grasp round and pull it out of the tube.

   NOTE C: Remove rounds from standard racks in ammunition compartment before removing rounds from swing tube racks (innermost) or rotary racks (outermost).

4. To remove round from swing tube racks, do the following:
   a. Press down and hold tab (located at the bottom of the swing tube racks).
   b. Move swing tube rack to side.
   c. Remove round as in steps 2 and 3 above.
5. To remove round from the turret floor ready rack, do the following:
   a. To remove a round from a Standard tube, do steps 2 and 3.
   b. To remove a round from the swing tube, do the following:
      1) Remove quick release pin (located between the two lower ammunition tubes).
      2) Move the bottom left swing tube to the right.

3) Push spring clip on the right side of the rack away from round and push in plunger with the indicator disc on the end.

4) Grasp round and pull it out of the tube.

6. To remove round from rotary rack tubes do the following:
   a. Press lever (located near the lower left corner of the rack) and rotate rack to expose tubes (outermost).
   b. Remove round as in Steps 2 and 3.
7. Close ammunition compartment door as follows:
   a. For the ready ammunition compartment, see Task 1E (automatic) or Task 3E (manual).
   b. For the semi-ready ammunition compartment, see Task 5E.
   c. For the hull ammunition compartment, See Task 7E.

MEASUREMENT

During Training:
Time - Between end of initiating stimulus and completion of Step 7.
Accuracy - As measured by the match between the steps given above and appropriate steps performed by the Loader.

End of Training:
Time - Between end of initiating stimulus and completion of Step 7.
Accuracy - As indicated by:
. An 105mm ammo round removed from indicated stowage rack.
. All ammunition compartment doors closed.

REFERENCES

TM 9-2350-255-10; p. 2-230.

MODULE G: OPERATE MAIN GUN BREECH BLOCK

CONDITIONS/STIMULUS

System State: Table G, Column 1G.
Loader Location: In Loader's Station.
Initiating Stimulus: The need to operate the main gun breechblock.

ACTION

Loader will:

1G. Open the breech manually.
2G. Close the breech manually.

TABLE G

POSITION OF CONTROLS FOR TASKS IN MODULE G WHEN TASK PEROFRMANCE BEGINS

CONTROLS	POSITION OF CONTROLS TASKS 1G	2G
AMPLIFIER MAIN POWER SWITCH	NORM	NORM
AMPLIFIER POWER CIRCUITBREAKER SWITCH	ON	ON
AMPLIFIER INTERCOM ACCENT SWITCH	ON	ON
AMPLIFIER RADIO TRANSMISSION SWITCH	CRD & CREW	CRD & CREW
INTERCOM LEVER	INT ONLY	INT ONLY
TURRET POWER SWITCH	ON	ON
DOMELIGHT	ON	ON
TURRET BLOWER SWITCH	OFF	OFF
GUN TURRET DRIVE SWITCH	ANY POSITION	ANY POSITION
LOADER'S HATCH	CLOSED	CLOSED

TASK 1G: OPEN THE BREECH MANUALLY

CONDITIONS/STIMULUS

System State: Table G, Column 1G.
Loader Location: In Loader's Station.
Initiating Stimulus: The need to open the main gun breech manually.

ACTION

Loader will:

NOTE A: The breech opening handle (located on the left side of the breech) is under spring tension until breechblock is opened all the way and locked by extractors. Do not let go of the handle while opening the breechblock until the breechblock is locked.

1. Grasp and hold breech opening handle (located on the left side of the breech) firmly.
2. Push the button on top of the handle down.
3. Pull the handle to rear and push down until the breechblock is locked by extractors sticking out from the sides of the breech.
4. Push the handle all the way up and forward until it locks in the up position.
5. Look at the main gun chamber to make sure it it empty; if not, clear main gun (see Task 3H).

MEASUREMENT

During Training:

Time - Between end of initiating stimulus and completion of Step 5.

Accuracy - As measured by the match between the steps given above and appropriate steps performed by the Loader.

End of Training:

Time - Between end of initiating stimulus and completion of Step 5.

Accuracy - As indicated by:
- The main gun clear.
- The breechblock locked open by extractors.
- The breech opening handle in the up position.

REFERENCES

TM 9-2350-255-10; p.2-236.

TASK 2G: CLOSE THE BREECH MANUALLY

CONDITIONS/STIMULUS

System State: Table G, Column 2G.
Loader Location: In Loader's Station.
Initiating Stimulus: The need to close the main gun breech manually.

ACTION

Loader will:

NOTE A: Keep hands away from breechblock.

1. Trip the extractor sticking out from the right side of the breech using a 2-foot long 4x4 inch wooden block.

NOTE B: When tripping left extractor, move wooden block away from breechblock quickly.

2. Trip the left extractor sticking out from the left side of the breech using a 2-foot long 4x4 inch wooden block.

MEASUREMENT

During Training:

Time - Between end of initiating stimulus and completion of Step 2.

Accuracy - As measured by the match between the steps given above and the steps performed by the Loader.

End of Training:

Time - Between end of initiating Stimulus and completion of Step 2.

Accuracy - As indicated by:
. Both extractors tripped.

REFERENCES

TM 9-2350-255-10; p. 2-236

MODULE H: OPERATE THE MAIN GUN

CONDITIONS/STIMULUS

System State: Table H, Column 1H.
Loader Location: In Loader's Station.
Initiating Stimuli: The order from the T.C. to commence firing.

ACTION

Loader will:

1H. Check the replenisher.
2H. Load the main gun.
3H. Clear the main gun.
4H. Perform the manual extraction of a round.

TABLE II

POSITION OF CONTROLS FOR TASKS IN MODULE H WHEN TASK PERFORMANCE BEGINS

CONTROLS	POSITION OF CONTROLS TASKS 1H	2H	3H	4H
AMPLIFIER MAIN POWER SWITCH	NORM	NORM	NORM	NORM
AMPLIFIER POWER CIRCUITBREAKER SWITCH	ON	ON	ON	ON
AMPLIFIER INTERCOM ACCENT SWITCH	ON	ON	ON	ON
AMPLIFIER RADIO TRANSMISSION SWITCH	CDR + CREW	CDR + CREW	CDR + CREW	CDR + CREW
INTERCOM LEVER	INT ONLY	INT ONLY	INT ONLY	INT ONLY
TURRET POWER SWITCH	ON	ON	ON	ON
DOME LIGHT	ON	ON	ON	ON
TURRET BLOWER SWITCH	OFF	OFF	ON OR OFF	ON OR OFF
GUN TURRET DRIVE SWITCH	POWERED OR EL UNCPL	POWERED, EL UNCPL OR MANUAL	MANUAL OR POWERED	POWERED, MANUAL OR EL UNCPL
LOADER'S HATCH	CLOSED	CLOSED	CLOSED	CLOSED

TASK 1H: CHECK THE REPLENISHER

CONDITIONS/STIMULUS

System State: Table H, Column 1H.
Loader Location: In Loader's Station.
Initiating Stimuli: An order from T.C. to commence firing.

ACTION

Loader will:

1. Look at replenisher above the maingun for hydraulic fluid level.
   a. If the fluid level is above the minimum level marking continue normal operations.
   b. If the fluid level is below minimum level marking, tell T.C.; add hydraulic fluid as follows:

NOTE A: Tank should be parked on ground level.

1) Have gunner elevate the maingun to maximum elevation.
2) Set GUN TURRET DRIVE switch on the Loader's panel to MANUAL (See Task 1B).
3) Have the T.C. set the TURRET POWER switch to OFF.
4) Open the Loader's hatch. (See Task 4A)
5) Loosen clamp on top of the replenisher using screwdriver and pull the hose end off replenisher.
6) Take the hose out of the four holding clips (located on the left side and bottom of the replenisher.
7) Run the hose up through the loader's hatch.
8) Put small funnel into the end of the hose.
9) Add hydraulic fluid until fluid reaches MIN LEVEL on replenisher.
10) Put hose on the four holding clips.
11) Put the hose end on the top of the replenisher and tighten the clamp using a screwdriver.

MEASUREMENT

During Training:

Time - Between end of initiating stimulus and completion of the appropriate step.
Accuracy - As measured by the match between the steps given above and appropriate steps performed by the Loader.

End of Training:

Time - Between end of initiating stimulus and completion of the appropiate step.

Accuracy - As indicated by:

- The fluid level at or above the minimum level marking.
- The replenisher hose attached to the replenisher with clamp tightened and hose in holding clips.

OR - T.C. notified.

REFERENCES

TM 9-2350-255-10; p. 2-237, p. 3-141.

TASK 2H: LOAD MAIN GUN

CONDITIONS/STIMULUS

System State: Table H, Column 2H.
Loader Location: In Loader's Station.
Initiating Stimuli: A fire command from the T.C.

ACTION

Loader will:

1. Adjust loader's seat for loading (See Task 9A).
2. Position loader's guards for firing (See Task 12A).
3. Unlock main gun elevation travel lock (See Task 1C).
4. Unlock turret traverse lock (See Task 1D).
5. Open breech (See Task 1G).
6. Check replenisher (See Task 1H).
7. Make sure the GUN TURRET DRIVE switch is in POWERED POSITION (See Task 1B).
8. Make sure ejection guard is forward and MAIN GUN STATUS SAFE light is lit (See Task 1B).
9. Set TURRET BLOWER switch (located on the Loader's panel) to ON.
10. Open ready ammunition door automatically (See Task 1E).

    NOTE A: Keep pressure on knee switch using right knee, to keep ready ammunition door open.

11. Take out round from standard, swing rack or rotary rack (See Task 5F).
12. Put right hand at base of round and left hand under front of projectile.
13. Swivel left in the loader's seat and release knee switch.
14. Put round into the main gun breech until case at the base of the round starts into the circular chamber at the center of the main gun.
15. Change position of right hand so that fingers are tucked over the top of the round base and the palm of the hand is flat against the round base.
16. Take left hand off round.

    NOTE B: Take care when sliding round into the main gun breech and chamber.

17. With the right hand, ram the round forcibly into the chamber so that the round base trips extractors sticking out from the sides of the main gun and allows the breechblock to close.

18. Move ejection guard at the end of the main gun, to the rear.
19. Make sure yellow ARMED light (located on the Loader's panel) is lit. (See Task 18).
20. Swivel in seat to face ready ammunition door (located across from the main gun).

NOTE C: Stay clear of main gun breech during firing.

21. Announce "up" to crewmembers.
22. Repeat steps 8 through 21 until T.C. announces CEASE FIRE.

MEASUREMENT

During Training:
Time - Between end of initiating stimulus and completion of Step 22.
Accuracy - As measured by the match between the steps given above and the steps performed by the Loader.

End of Training:
Time - Between end of initiating stimulus and completion of Step 22.
Accuracy - As indicated by:

- Loader's guards positioned for firing.
- Turret traverse and maingun elevation travel locks unlocked.
- Fluid level in maingun replenisher at or above the minimum level.
- The GUN TURRET DRIVE switch in POWERED position.
- Maingun loaded.
- ARMED light lit.
- 'Up' announced to crewmembers.
- Loader facing the ready ammunition door.

REFERENCES

TM 9-2350-255-10; p. 2-237 to p. 2-238.

TASK 3H: CLEAR THE MAIN GUN

CONDITIONS/STIMULUS

System State: Table H, Column 3H.
Loader Location: In Loader's Station.
Initiating Stimuli: The need to clear the main gun.

ACTION

Loader will:

NOTE A: If main gun is being cleared because round failed to fire, assist the gunner in doing PERFORM FAILURE TO FIRE before clearing main gun.

1. Have the gunner make sure GUN SELECT switch on gunner's primary sight panel is set to TRIGGER SAFE.
2. Move ejection guard (located at the end of the main gun) forward.
3. Make sure MAIN GUN STATUS SAFE light is lit (See Task 1B).
4. Set GUN TURRET DRIVE switch to EL UNCPL (See Task 1B).
5. Open breech slowly (See Task 1G).

NOTE B: If case separates from projectile, do MANUAL EXTRACTION (See Task 4H).

6. Grasp round and pull from breech at the end of the main gun.
7. Stow or remove round from tank.
8. Make sure chamber and main gun tube are clear; if not, clean chamber and main gun tube (See Task 3A, 10A and LO 9-2350-255-12).

MEASUREMENT

During Training:
Time - Between end of initiating stimulus and completion of Step 8.
Accuracy - As measured by the match between the steps given above and appropriate steps performed by the Loader.

End of Training:
Time - Between end of initiating stimulus and completion of Step 8.
Accuracy - As indicated by:

- The maingun is clear.
- The chamber and maingun tube are clean.

REFERENCES

TM 9-2350-255-10; p. 2-239.

TASK 4H: PERFORM THE MANUAL EXTRACTION OF A ROUND

CONDITIONS/STIMULUS

System State: Table H, Column 4H.
Loader Location: In Loader's Station.
Initiating Stimuli: If an attempt to CLEAR MAIN GUN (Task 3H) does not take out the round or if the projectile has separated from its case or the case does not come out of the main gun using the extractor tool.

ACTION

Loader will:

1. If attempt to CLEAR MAIN GUN does not take out round, do the following:
   a. Open breech (See Task 1G).
   b. Move ejection guard (located at the end of the main gun) to the rear.
   c. Have one crewmember move and hold the main gun breech operating handle (located on the left side of the main gun) all the way down.

   NOTE A: Stand as far as possible to side of breech. Do not try to hammer round out of breech.

   d. Put head of extracting tool between breech block at the end of the main gun and the stuck round.
   e. Grasp extractor tool with both hands.
   f. Lift up and pull on extractor tool to take out round from breech.
   g. Grasp round and pull from breech.
   h. Stow round in tank or take round out of tank.
   i. Have the other crewmember move the main gun breech operating handle back to up position.
   j. Close breech (See Task 2G).
2. If projectile has separated from case or case does not come out using extractor tool, do the following:

   NOTE B: Do not use rammer staff on misfired round without bell housing installed.

   a. Have two crewmembers assemble five sections of rammer-staff and attach bell housing to the end.
   b. Open breech (See Task 1G).
   c. Move ejection guard to the rear.
   d. Have the gunner depress the main gun to the proper position.

e. Have one crewmember move and hold the main gun breech operating handle all the way down.

f. Have two crewmembers put rammer-staff into the muzzle end of the main gun until bell housing is against the round.

g. Have the two crewmembers push the round out. If it will not come out, tell T.C.

h. Have the crewmember move the main gun breech operating handle back to up position.

i. Close breech (See Task 2G).

3. Make sure main gun chamber and tube are clear of powder. If not, clean main gun (See Tasks 3A, 10A, and LO 9-2350-255-12).

MEASUREMENT

During Training:

Time - Between end of initiating stimulus and completion of the appropriate step(s).

Accuracy - As measured by the match between the steps given above and appropriate steps performed by the Loader.

End of Training:

Time - Between end of initiating stimulus and completion of the appropriate step(s).

Accuracy - As indicated by:

. The main gun is clear.

. The main gun chamber and tube are clear of powder.

or . T.C. notified.

REFERENCES

TM 9-2350-255-10; p. 2-239 to p. 2-240.

MODULE I: OPERATE THE COAXIAL MACHINEGUN

CONDITIONS/STIMULUS

System State: Table I, Column 1I.
Loader Location: In Loader's Station.
Initiating Stimuli: The order from T.C. to load the coaxial machinegun with the machinegun installed.

ACTION

Loader will:

1I. Load the coaxial machinegun.
2I. Clear the coaxial machinegun.

TABLE I

POSITION OF CONTROLS FOR TASKS IN MODULE I WHEN TASK PERFORMANCE BEGINS

CONTROLS	POSITION OF CONTROLS TASKS 1I	2I
AMPLIFIER MAIN POWER SWITCH	NORM	NORM
AMPLIFIER POWER CIRCUITBREAKER SWITCH	ON	ON
AMPLIFIER INTERCOM ACCENT SWITCH	ON	ON
AMPLIFIER RADIO TRANSMISSION SWITCH	CDR + CREW	CDR + CREW
INTERCOM LEVER	INT ONLY	INT ONLY
TURRET POWER SWITCH	ON	ON
DOMELIGHT	ON	ON
TURRET BLOWER SWITCH	ON	ON
GUNTURRET DRIVE SWITCH	ANY POSITION	ANY POSITION
LOADER'S HATCH	CLOSED	CLOSED

TASK 1I: LOAD COAXIAL MACHINEGUN

CONDITIONS/STIMULUS

System State: Table I, Column 1I.
Loader Location: In Loader's Station.
Initiating Stimuli: The order from T.C. to load the coaxial machinegun with machinegun installed.

ACTION

Loader will:

NOTE A: Turret blower must be on and coax smoke box must be in latched position when coaxial machinegun is being fired.

NOTE B: Stay away from breech when GUN TURRET DRIVE switch is moved to EL UNCPL.

1. Set GUN TURRET DRIVE switch to EL UNCPL (See Task 1B. Step 9).
2. Swing the ejection guard (located near the end of the maingun breech) to the rear.
3. Make sure MAIN GUN STATUS SAFE light is lit (See Task 1B, Step 4).
4. Open ready box (located to the left of the maingun) covers.

NOTE C: Load ammunition belt into ready box in sections starting at right rear of ready box (The right side of the box is that closest to the maingun).

NOTE D: Snap all belt sections together using belt loops. If some annumition is left in box, snap loop of new belt to unused ammunition and start loading.

NOTE E: Bullets must point to the left, away from the maingun.

5. Put single-loop end of belt loop into right rear compartment of ready box with bullets pointing to the left.
6. Fill right rear compartment by snapping added belts together.
7. Lay belt straight down side of next compartment in front of the compartment just filled.
8. Stack belts and fill the next compartment.
9. Fill all compartments on right side of ready box (closest to the maingun) in the same way.

10. Lay belt over top of filled compartments to rear of ready box.
11. Loop 20 rounds of belt into the undivided transition compartment at the end of the ready box.
12. Aline belt with center compartments.
13. Fill center compartments starting at rear of ready box the same as the right compartments.
14. Lay belt back over top of filled center compartments to rear of ready box.
15. Loop 20 rounds of belt into the undivided transition compartment at the end of the ready box.
16. Aline belt with left compartments.
17. Fill left compartments starting at rear of ready box the same as the center compartments.
18. Lay belt back over the top of the left filled compartments to the rear of the ready box.
19. Close front cover (the cover farthest from the Loader's seat).
20. Lay belt over the closed front cover.
21. Put belt into feed chute (located toward the front of the ready box, wrapped over the maingun).
22. Close rear cover of the ready box.
23. Have the Gunner make sure the GUN SELECT switch on the Gunner's primary sight is set to TRIGGER SAFE position.
24. Pull belt through the feed chute to the coaxial machinegun on the opposite side of the maingun.
25. Push the machinegun safety (located on the right side of the maingun) left to cover the F.
26. Grasp and pull the charger cable hanging from the end of the machinegun to the rear.
27. Push the machinegun safety tight to cover the S.
28. Grasp and push in latches holding the top cover of the machinegun to the body of the machinegun.
29. Pull cover straight up.
30. Raise feed tray which comes into view when the top cover is pulled up.
31. Make sure the machinegun chamber is empty. If not, clear the coaxial machinegun (See Task 2I).
32. Lower feed tray.
33. Put belt in feed tray with a bullet against cartridge stop (located on the right hand side of the feed tray).
34. Make sure double link on the belt alines with receiver of the feed tray.
35. Grasp and push down the top cover of the machinegun to the close position.

MEASUREMENT

During Training:

Time - Between end of initiating stimulus and completion of Step 35.

Accuracy - As measured by the match between the steps given above and appropriate steps performed by the loader.

End of Training:

Time - Between end of initiating stimulus and completion of Step 35.

Accuracy - As indicated by:

- Bullet belts loaded properly in ready box.
- Bullet belt pulled through feed chute.
- Charger cable pulled.
- Safety covering the S.
- The machinegun chamber is empty.
- Bullet belt put in feed tray with a bullet against the cartridge stop with the double link alined with the receiver.
- The top machinegun cover closed.

REFERENCES

TM 9-2350-255-10; p. 2-241 to p. 2-243.

TASK 2I: CLEAR COAXIAL MACHINEGUN

CONDITIONS/STIMULUS

System State: Table I, Column 2I.
Loader Location: In Loader's Station.
Initiating Stimuli: The need to clear the coaxial machinegun.

ACTION

Loader will:

1. Make sure ejection guard is forward and MAINGUN STATUS SAFE light is lit (See Task 1B, Step 3).
2. Make sure GUN TURRET DRIVE switch is set to EL UNCPL (See Task 1B, Step 9).
3. Have the gunner make sure gunner's GUN SELECT TRIGGER SAFE light is lit.
4. Push the machinegun safety left to cover the f.
5. Grasp and pull charger cable hanging from the end of the machinegun, to the rear.
6. Push safety right to cover the S.
7. Grasp and push in latches holding the top cover of the machinegun to the body of the machinegun.
8. Pull cover straight up.
9. Take off bullet belt from feed tray which comes into view when the cover is pulled up.
10. Raise feed tray.
11. If bullet is in chamber (located in front of the feed tray) do the following:
    a. Grasp and push down on top cover of the machinegun to close.
    b. Push safety left to cover the f.
    c. If machinegun is hot, wait 15 minutes.
    d. Pull back and hold charger cable to the rear.
    e. Pull and hold trigger back and slowly move charger cable forward until it stops, then let go of the trigger.
    f. Grasp and pull charger cable to the rear and look for bullet to drop into spent case container.
    g. Repeat steps 6,7,8 and 10 above.
    h. Make sure the machinegun chamber is empty. If bullet is stuck in the chamber, tell T.C. and see TM 9-1005-313-10.
12. If chamber is empty, do the following:
    a. Grasp and push down on top cover of the machinegun to close.
    b. Push safety left to cover the f.
    c. Pull back and hold charger cable to the rear.
    d. Pull and hold trigger back and slowly move charger cable forward until it stops, then let go of the trigger and cable.

During Training:

Time - Between end of initiating stimulus and completion of Step 12.

Accuracy - As measured by the match between the steps given above and appropriate steps performed by the loader.

End of Training:

Time - Between end of initiating stimulus and completion of Step 12.

Accuracy - As indicated by:

- The chamber of the coaxial machinegun is clear.
- The bullet belt is removed from the feed tray.
- The top cover of the machinegun is closed.
- The safety is pushed to the left covering the f.

REFERENCES

TM 9-2350-255-10; p. 2-243 to p. 2-244.

MODULE J: OPERATE THE LOADER'S MACHINEGUN

CONDITIONS/STIMULUS

System State: Table J, Column 1J.
Loader Location: In Loader's Station.
Initiating Stimuli: The order from the T.C. to operate the Loader's machinegun.

ACTION

Loader will:

1J. Load the Loader's machinegun.
2J. Fire the Loader's machinegun.
3J. Change the barrel on the Loader's machinegun.
4J. Clear the Loader's machinegun.
5J. Empty the Loader's machinegun spen. case can.

TABLE J

POSITION OF CONTROLS FOR TASKS IN MODULE J WHEN TASK PERFORMANCE BEGINS

	POSITION OF CONTROLS TASKS 1J, 2J, 3J, 4J, 5J
AMPLIFIER MAIN POWER SWITCH	NORM
AMPLIFIER POWER CIRCUITBREAKER SWITCH	ON
AMPLIFIER INTERCOM ACCENT SWITCH	ON
AMPLIFIER RADIO TRANSMISSION SWITCH	CDR + CREW
INTERCOM LEVER	INT ONLY
TURRET POWER SWITCH	ON
DOMELIGHT	ON OR OFF
TURRET BLOWER SWITCH	ON OR OFF
GUNTURRET DRIVE SWITCH	ANY POSITION
LOADER'S HATCH	OPEN

TASK 1J: LOAD THE LOADER'S MACHINEGUN

CONDITIONS/STIMULUS

System State: Table J, Column 1J.
Loader Location: In Loader's Station.
Initiating Stimuli: The order from the T.C. to load the Loader's machine.

ACTION

Loader will:

1. Install loader's machinegun (See Task 2A).
2. Push safety (located on the rear of the machinegun) left so the f is showing.
3. Grasp and pull charger cable hanging from the end of the machinegun, to the rear.
4. Push safety right so the S is showing.
5. Grasp and push in latches holding the top cover of the machinegun to the body of the machinegun.
6. Pull cover straight up.
7. Raise feed tray which comes into view when the top cover is pulled up.
8. Make sure chamber (located in front of the feeding tray) is empty. If not, clear loader's machinegun (See Task 4J).
9. Lower feed tray.
10. Open ready ammunition box cover on the left side of the machinegun.
11. Stack belt in ready ammunition box with bullets pointing toward the barrel.
12. Put belt in feed tray with a bullet against cartridge stop on the right side of the feed tray.
13. Make sure belt double link alines with the receiver (located in front and to the left of the cartridge stop).
14. Grasp and push down on the top cover of the machinegun to close.

MEASUREMENT

During Training:
Time - Between end of initiating stimulus and completion of Step 14.
Accuracy - As measured by the match between the steps given above and appropritate steps performed by the loader.

End of Training:
Time - Between end of initiating stimulus and completion of Step 14.
Accuracy - As indicated by:
- The chamber of the Loader's machinegun is empty.
- The ready ammunition box is loaded with a stacked bullet belt with bullets pointed toward the barrel.

. The belt in the feed tray with a bullet against the cartridge stop.
. A double link of the belt alines with the receiver
. The top cover of the machinegun is closed.

REFERENCES

TM 9-2350-255-10; p. 2-245.

TASK 2J: FIRE THE LOADER'S MACHINEGUN

CONDITIONS/STIMULUS

System State: Table J, Column 2J.
Loader Location: In Loader's Station.
Initiating Stimuli: The completion of Task 1J and the order from the T.C. to commence firing.

ACTION

Loader will:

1. Adjust loader's platform (See Task 9A, Step 12).
2. Turn skate lock on top of the machinegun skate 90° to center position.
3. Turn azimuth lock (located on the mount receptor of the skate) counterclockwise all the way.
4. Pull out ring on elevation lock pin (located on the side of the machinegun) and twist 1/4 turn to unlock machinegun.
5. Push safety (located near the rear of the machinegun) left so that the f is showing.
6. Swing rear sight on top of the machinegun up all the way.
7. Grasp hand grips on the rear of the machinegun with both hands.
8. Aim machinegun using rear sight and front sight at the end of the barrel.
9. Push trigger (located between handgrips) forward with both thumbs to start firing.
10. Move skate base (where the machinegun is attached to the skate rail) and machinegun left or right along rail to adjust for firing direction.
11. Move machinegun left or right (azimuth) or up and down (elevation) as needed to hit target.
12. If machinegun stops firing when trigger is pushed, do the following immediate action:
    a. Let go of trigger.
    b. Pull charger cable hanging from the rear of the machinegun, then let go.
    c. Push trigger forward using both thumbs to start firing.
    d. If machinegun still does not fire, clear machinegun (See Task 4J).
13. Let go of trigger to stop firing.
14. If machinegun does not stop firing (runaway firing) twist the belt to break bullet links or pull and hold charger cable to rear if not able to grasp the bullet belt.
15. Push safety right so that the s is showing, to secure machinegun.

MEASUREMENT

During Training:

Time - Between end of initiating syimulus and completion of Step 15.

Accuracy - As measured by the match between the steps given above and appropriate steps performed by the Loader.

End of Training:

Time - Between end of initiating stimulus and completion of Step 15.

Accuracy - As indicated by:

- The machinegun's firing properly without stopping or runaway firing.
- The machinegun's being adjustable for all firing directions.
- The safety pushed so that the s is showing.

REFERENCES

TM 9-2350-255-10; p. 2-245 to p. 2-246.

TASK 3J: CHANGE THE BARREL ON THE LOADER'S MACHINEGUN

CONDITIONS/STIMULUS

System State: Table J, Column 3J.
Loader Location: Inside or outside the Loader's Station.
Initiating Stimulus: The need to change the barrel on the Loader's machinegun.

ACTION

Loader will:

1. Clear machinegun (See Task 4J).
2. Push safety (located near the rear of the machinegun) right so that the S is showing.
3. Using asbestos mitten, press barrel locking latch (located where the barrel joins the machinegun body) on opposite side of weapon and hold.
4. Lift up barrel release (located near the barrel locking latch).
5. Pull barrel straight out, without lifting.
6. Put new barrel in socket, where the old barrel had been.

   NOTE A: If less than 2 or more than 7 clicks are heard when the barrel release is pushed down to lock the barrel, tell T.C.

7. Move barrel release down to lock barrel in place.

MEASUREMENT

During Training:
Time - Between end of initiating stimulus and completion of Step 7.
Accuracy - As measured by the match between the steps given above and appropriate steps performed by the Loader.

End of Training:
Time - Between end of initiating stimulus and completion of Step 7.
Accuracy - As indicated by:
- The new barrel locked in place in the machinegun.
- The barrel release moved down with between 3 and 6 (inclusive) clicks heard.

or
- T.C. notified.

REFERENCES

TM 9-2350-255-10; p. 2-247.

TASK 4J: CLEAR THE LOADER'S MACHINEGUN

CONDITIONS/STIMULUS

System State: Table J, Column 4J.
Loader Location: In the Loader's Station.
Initiating Stimulus: The need to clear the Loader's machinegun.

ACTION

Loader will:

1. Push safety (located near the rear of the machinegun) left so that the F is showing.
2. Grasp and pull charger cable hanging from the rear of the machinegun, to the rear.
3. Push safety right so that the S is showing.
4. Grasp and push in latches holding the top cover of the machinegun to the machinegun body.
5. Pull cover straight up.
6. Take off the belt from feed tray, which comes into view when the cover is pulled up.
7. Raise feed tray.
8. If bullet is in chamber located in front of the feed tray) do the following:
   a. Grasp and push down on the top cover to close.
   b. Push safety left so that the F is showing.
   c. If machinegun is hot, wait 15 minutes.
   d. Pull back and hold bach charger cable.
   e. Push and hold trigger (located at the rear of the machinegun) forward and slowly move charger cable forward until it stops, then let go of both the trigger and the charger cable.
   f. Grasp and pull charger cable to the rear and look for bullet to drop into spent case container.
   g. Repeat steps 3,4,5 and 7 above.
   h. Make sure chamber is empty. If bullet is stuck in chamber, see TM 9-1005-313-10.
9. If chamber is empty, do the following:
   a. Grasp and push down on top cover to close.
   b. Push safety left so that the F is showing.

c. Grasp, pull back and hold the charger cable.

d. Push and hold trigger (located at the rear of the machinegun) forward and slowly move charger cable forward until it stops, then let go of both the trigger and the charger cable.

MEASUREMENT

During Training:

Time - Between end of initiating stimulus and completion of Step 8 or 9.

Accuracy - As measured by the match between the steps given above and appropriate steps performed by the Loader.

End of Training:

Time - Between end of initiating stimulus and completion of Step 8 or 9.

Accuracy - As indicated by:

- The machinegun chamber is empty.
- The F showing on the safety.
- The belt taken from the feed tray.
- The top cover of the machinegun closed.
- The machinegun cleared by the proper manipulation of the charger cable and the trigger.

REFERENCES

TM 9-2350-255-10; p. 2-248.

TASK 5J: EMPTY THE LOADER'S MACHINEGUN SPENT CASE CAN

CONDITIONS/STIMULUS

System State: Table J, Column 5J.
Loader Location: Inside the Loader's Station.
Initiating Stimulus: The need to empty the Loader's machinegun spent case can.

ACTION

Loader will:

1. Squeeze the handle lock pins (located beneath the machinegun trigger) together.
2. Pull up and out on handle released by squeezing the lock pins.
3. Take off spent case can (located beneath the machinegun) from the machinegun mount.
4. Empty spent case can.
5. Slide spent case can into grove in the machinegun mount.
6. Push spent case can up and snap handle to the machinegun mount.

MEASUREMENT

During Training:
Time - Between end of initiating stimulus and completion of Step 6.
Accuracy - As measured by the match between the steps given above and appropriate steps performed by the Loader.

End of Training:
Time - Between end of initiating stimulus and completion of Step 6.
Accuracy - As indicated by:
- The spent case can emptied
- The spent case can attached to the machinegun with the lock handle snapped to the machinegun mount.

REFERENCES

TM 9-2350-255-10; p. 2-249.

MODULE K: OPERATE THE GAS PARTICULATE FILTER SYSTEM

CONDITIONS/STIMULUS

System State: Table K, Column 1K.

Loader Location: In Loader's Station.

Initiating Stimulus: Indication of an NBC attack.

ACTION

Loader will:

1K. Operate the Gas Particulate Filter System

TABLE K

POSITION OF CONTROLS FOR TASKS IN MODULE K WHEN TASK PERFORMANCE BEGINS

CONTROLS	POSITION OF CONTROLS TASKS IK
AMPLIFIER MAIN POWER SWITCH	NORM
AMPLIFIER POWER CIRCUITBREAKER SWITCH	ON
AMPLIFIER INTERCOM ACCENT SWITCH	ON
AMPLIFIER RADIO TRANS-MISSION SWITCH	CDR + CREW
INTERCOM LEVER	INT ONLY
TURRET POWER SWITCH	ON
DOMELIGHT	ON
TURRET BLOWER SWITCH	ON OR OFF
GUN TURRET DRIVE SWITCH	ANY POSITION
LOADER'S HATCH	CLOSED

TASK 1K: OPERATE GAS PARTICULATE FILTER SYSTEM

CONDITIONS/STIMULUS

System State: Table K, Column 1K.

Loader Location: Inside the Loader's Station.

Initiating Stimulus: Indication of an NBC attack.

ACTION

Loader will:

1. Stop breathing.
2. Put on protective gas mask.
3. Clear and seal mask.
4. Resume breathing.
5. Take off spring clip from the top of the air intake filter (located to the Loader's left).
6. Disconnect the regular intercom mike lead from connector on the left side of the helment.
7. Connect mask mike lead to connector on the left side of the helmet.
8. Have the Driver make sure GAS PARTIC FILTER switch on Driver's panel is set to ON.
9. Pull socket (located on the end of the filter hose) away from mount (located to the left of the air intake filter).

   NOTE A: Under arctic winter conditions, put on mask but do not connect socket to cannister (located at the end of the mask hose) until air heater has been on for at least 15 minutes.

10. Connect socket to cannister (located at the end of the mask hose).

    NOTE B: If air temperature is too cold to be breathed in comfort, do Step 11.

    NOTE C: When air heater is used, the light next to the heater knob will go on and off during operation.

11. Turn air heater knob on top of the air heater (located to the left of the air intake filter) clockwise until its light is lit. To adjust air temperature, do the following:

a. Turn knob clockwise for warmer air.

b. Turn knob counterclockwise for warmer air.

12. When gas particulate filter system is no longer needed, remove the mask.

13. Disconnect the mask intercom lead from connector on the left side of the helmet.

14. Stow the gas.

15. Connect the regular intercom mike lead to connector.

16. Disconnect socket at the end of the filter hose from cannister at the end of the helmet hose.

17. Connect socket to mount (located to the left of the air intake filter).

18. Turn air heater knob counterclockwise until click is heard.

19. Have the driver make sure the GAS PARTICULATE FILTER switch on DRIVER'S panel is set to OFF.

20. Put spring clip on the top of the air intake filter.

MEASUREMENT

During Training:

Time - Between end of initiating stimulus and completion of Step 20.

Accuracy - As measured by the match between the steps given above and appropriate steps performed by the Loader.

End of Traing:

Time - Between end of initiating stimulus and completion of Step 20.

Accuracy - As indicated by:

. Loader unaffected by NBC attacks.

. The gas particulate heater warming the air properly with its light lit when the air heater knob is turned clockwise.

. The mask stowed.

. The hose socket connected to the mount.

. The air heater knob turned counterclockwise all the way.

- The GAS PARTICULATE FILTER switch on the DRIVER'S panel is set to OFF.
- The spring clip in place on top of the air intake filter.

REFERENCES

TM 9-2350-255-10; p. 2-249 to p. 2-250.

MODULE L: OPERATE THE M250 GRENADE LAUNCHER

CONDITIONS/STIMULUS

System State: Table L, Column 1L.
Loader's Location: Outside of tank.
Initiating Stimulus: The order from the T.C. to load the M250 grenade launcher.

ACTION

Loader will: 1L. Load the grenade launcher.

2L. Unload the grenade launcher.

TABLE L

POSITION OF CONTROLS FOR TASKS IN MODULE L WHEN TASK PERFORMANCE BEGINS

CONTROLS	POSITION OF CONTROLS TASKS 1L	2L
AMPLIFIER MAIN POWER SWITCH	NORM	NORM
AMPLIFIER POWER CIRCUITBREAKER SWITCH	ON	ON
AMPLIFIER INTER COM ACCENT SWITCH	ON	ON
AMPLIFIER RADIO TRANSMISSION SWITCH	CDR + CREW	CDR + CREW
INTERCOM LEVER	INT ONLY	INT ONLY
TURRET POWER SWITCH	OFF	OFF
DOMELIGHT	OFF	OFF
TURRET BLOWER SWITCH	OFF	OFF
GUN TURRET DRIVE SWITCH	ANY POSITION	ANY POSITION
LOADER'S HATCH	OPEN	OPEN

TASK 1L: LOAD THE GRENADE LAUNCHER

CONDITIONS/STIMULUS

System State: Table L, Column 1L.
Loader Location: In the Loader's Station.
Initiating Stimulus: Order from T.C. to load the grenade launcher.

ACTION

Loader will:

NOTE A: Have the T.C. set TURRET POWER switch to OFF before loading the grenade launcher.

1. Take off cover from grenade launcher.
2. Check grenade launcher tubes for dirt or sharp objects. If dirt or sharp objects are found, clean grenade launcher tubes.

NOTE B: Do not stand in front of grenade launcher when loading.

3. Put grenades into grenade launcher tubes with clip end down.
4. Turn each grenade one-half turn clockwise.
5. Stow the grenade launcher cover in the bustle rack (located to the right of the Loader's seat).

MEASUREMENT

During Training:
Time - Between end of the initiating stimulus and completion of Step 5.
Accuracy - As measured by the match between the steps given above and appropriate steps performed by the Loader.

End of Training:
Time - Between end of initiating stimulus and completions of Step 5.
Accuracy - As indicated by:

- The TURRET POWER switch set to OFF.
- The grenade launcher tubes cleaned.
- The grenades in the grenade launcher tubes with clip ends down.
- Each loaded grenade turned 1/2 turn clockwise.

. The grenade launcher cover stowed in the bustle rack.

REFERENCES

TM 9-2350-255-10; p. 2-251.

TASK 2L: UNLOAD THE GRENADE LAUNCHER

CONDITIONS/STIMULUS

System State: Table L, Column 2L.
Loader Location: In the Loader's station.
Initiating Stimulus: Order from T.C. to unload the grenade launcher.

ACTION

Loader will:

NOTE A: Have the T.C. Set TURRET POWER switch to OFF before unloading the Grenade launcher.

NOTE B: Do not stand in front of grenade launcher when unloading.

1. Grasp and pull grenades from grenade launcher tubes.
2. Stow grenades in the right or left cargo stowage box (located on the sides of the tank next to the grenade launchers).
3. Take covers from bustle rack and put over grenade launcher.

MEASUREMENT

During Training:
Time - Between end of initiating stimulus and completion of Step 3.
Accuracy - As measured by the match between the steps given above and appropriate steps performed by the Loader.

End of Training:
Time - Between end of initiating stimulus and completion of Step 3.
Accuracy - As indicated by:

- The TURRET POWER switch set to OFF.
- The grenades stowed in the cargo stowage boxes.
- The covers in position over the grenade launchers.

REFERENCES

TM 9-2350-255-10; p. 2-251.

MODULE M: CHECK THE TURRET NETWORKS BOX (TNB)

CONDITIONS/STIMULUS

System State: Table M, Column 1M.
Loader Location: In the Loader's Station.
Initiating Stimulus: An electrical malfunction.

ACTION

Loader will:

1M. Check the TURRET Networks Box (TNB)

TABLE M

POSITION OF CONTROLS FOR TASKS IN MODULE M WHEN TASK PERFORMANCE BEGINS

CONTROLS	POSITION OF CONTROLS TASKS 1M
AMPLIFIER MAIN POWER SWITCH	ANY POSITION
AMPLIFIRR POWER CIRCUIT BREAKER SWITCH	ON OR OFF
AMPLIFIER INTERCOM ACCENT SWITCH	ON OR OFF
AMPLIFIER RADIO TRANSMISSION SWITCH	ANY POSITION
INTERCOM LEVER	ANY POSITION
TURRET POWER SWITCH	ON
DOMELIGHT	ON
TURRET PLOWER SWITCH	ON OR OFF
GUN TURRET DRIVE SWITCH	ANY POSITION
LOADER'S HATCH	OPEN OR CLOSED

TASK 1M: CHECK THE TURRET NETWORKS BOX (TNB)

CONDITIONS/STIMULUS

System State: Table M, Column 1M.
Loader Location: In the Loader's Station.
Initiating Stimulus: An electrical malfunction.

ACTION

Loader will:

1. Grasp and swing circuit breaker cover on turret network box (located to the Loader's right) towards you to open.

   NOTE A: Placard on inside of circuit breaker cover shows what circuits each circuit break protects.

2. Set all circuit breaker switches to ON.
3. Push on Lamp Reset button (located near the circuit breaker switches) after circuit breaker switches have been set to ON.
4. If Lamp Reset button light is still lit, do trouble-shooting for the particular malfunctioning system.
5. Push circuit breaker cover to closed position.

MEASUREMENT

During Training:
- Time - Between end of initiating stimulus and completion of Step 5.
- Accuracy - As measured by the match between the steps given above and appropriate steps performed by the Loader.

End of Training:
- Time - Between end of initiating stimulus and completion of Step 5.
- Accuracy - As indicated by:
  - . All circuit breakers set to ON.
  - . The Lamp Reset button light not lit after button has been pushed.
  - . The circuit breaker cover in the closed position

REFERENCES

TM 9-2350-255-10; p. 2-252.

MODULE N: OPERATE FIRE EXTINGUISHERS

CONDITIONS/STIMULUS

System State: Table N, Column 1N.
Loader Location: In the Loader's station or outside the tank.
Initiating Stimulus: Out break of fire in the tank.

ACTION

Loader will:

1N. Pull the external fire extinguisher handle.
2N. Operate the portable fire extinguisher.

TABLE N

POSITION OF CONTROLS FOR TASKS 1N MODULE N WHEN TASK PERFORMANCE BEGINS

CONTROLS	POSITION OF CONTROLS TASKS 1N	2N
AMPLIFIER MAIN POWER SWITCH	NORM	ANY POSITION
AMPLIFIER POWER CIRCUIT BREAKER SWITCH	ON	ON OR OFF
AMPLIFIER INTERCOM ACCENT SWITCH	ON	ON OR OFF
AMPLIFIER RADIO TRANSMISSION SWITCH	CDR + CREW	ANY POSITION
INTERCOM LEVER	INT ONLY	ANY POSITION
TURRET POWER SWITCH	ON	ON OR OFF
DOMELIGHT	ON	ON OR OFF
TURRET BLOWER SWITCH	ON OR OFF	ON OR OFF
GUN TURRET DRIVE SWITCH	ANY POSITION	ANY POSITION
LOADER'S HATCH	OPEN	OPEN OR CLOSED

TASK 1N: PULL THE EXTERNAL FIRE EXTINGUISHER HANDLE

CONDITIONS/STIMULUS

System State: Table N, Column 1N.
Loader Location: Outside the tank.
Initiating Stimulus: A fire in the engine compartment.

ACTION

Loader will:

NOTE A: This procedure is used when there is an engine fire and crew is not in tank or when 2nd shot switch on Driver's instrument panel does not set OFF 2nd shot fire extinguisher bottle.

1. Locate external fire extinguisher handle just above left side of No. 5 skirt panel.
2. Pull handle hard to set OFF 2nd shot bottle.

MEASUREMENT

During Training:
Time - Between end of initiating stimulus and completion of Step 2.
Accuracy - As measured by the match between the steps given above and appropriate steps performed by the Loader.

End of Training:
Time - Between end of initiating stimulus and completion of Step 2.
Accuracy - As indicated by:
. 2nd shot fire extinguishing bottle set off.

REFERENCES

TM 9-2350-255-10; p. 2-252.

TASK 2N: OPERATE PORTABLE FIRE EXTINGUISHERS

CONDITIONS/STIMULUS

System State: Table N, Column 2N.
Loader Location: In the Loader's Station or outside tank.
Initiating Stimulus: Fire in the tank not put out by engine or crew compartment fire extinguishers.

ACTION

Loader will:

1. Get portable extinguishers from racks under T. C.'s seat and/or left stowage box (located outside tank).
2. Break wire and pull out pin (located on extinguisher trigger).
3. Pull extinguisher horn up to level position.
4. Take fire extinguisher as close to the fire as possible and point horn directly at base of flames.
5. Press down and hold trigger to shoot fire extinguisher.

   NOTE A: If fire was inside tank, open all hatches after fire is extinguished and let tank air out for five minutes before continuing operation.

6. Put pin back into trigger.
7. Turn horn down.
8. Tag fire extinguisher with word EMPTY.

   NOTE B: Replace empty fire extinguisher as soon as possible.

MEASUREMENT

During Training:
Time - Between detection of initiating stimuli and completion of Step 8.
Accuracy - As indicated by match between steps given above and steps performed by the Loader.

End of Training:
Time - Between detection of initiating stimuli and completion of Step 8.
Accuracy - As indicated by:
- Fire extinguished.
- Extinguisher pins in place.
- Used extinguishers tagged EMPTY.
- Tank aired out if fire was inside tank.

REFERENCES

TM 9-2350-255-10; p. 2-77; p. 2-252.

MODULE O: OPERATE THE LOADER'S NIGHT VISION VIEWER

CONDITIONS/STIMULUS

System State: Table O, Column 10.
Loader Location: In the Loader's station.
Initiating Stimulus: Beginning of nightime operation.

ACTION

Loader will: 10. Install the Loader's Night Vision Viewer.
20. Operate the Loader's Night Vision Viewer.
30. Remove the Loader's Night Vision Viewer.

TABLE 0

POSITION OF CONTROLS FOR TASKS IN MODULE 0 WHEN TASK PERFORMANCE BEGINS

CONTROLS	POSITION OF CONTROLS TASKS 10	20	30
AMPLIFIER MAIN POWER SWITCH	ANY POSITION	NORM	NORM
AMPLIFIER POWER CIRCUIT BREAKER SWITCH	ON OR OFF	ON	ON
AMPLIFIER INTERCOM ACCENT SWITCH	ON OR OFF	ON	ON
AMPLIFIER RADIO TRANSMISSION SWITCH	ANY POSITION	CDR + CREW	CDR + CREW
INTERCOM LEVER	ANY POSITION	INT ONLY	INT ONLY
TURRET POWER SWITCH	ON	ON	ON
DOMELIGHT	ON	ON	ON
TURRET BLOWER SWITCH	ON OR OFF	ON OR OFF	ON OR OFF
GUN TURRET DRIVE SWITCH	ANY POSITION	ANY POSITION	ANY POSITION
LOADER'S HATCH	CLOSED	CLOSED	CLOSED

TASK 10: INSTALL THE NIGHT VISION VIEWER

CONDITIONS/STIMULUS

System State: Table 0, Column 10.
Loader Location: In the Loader's Station.
Initiating Stimulus: Beginning of night time operation.

ACTION

Loader will:

1. Remove Loader's periscope (located in the Loader's hatch) (See Task 1Q).
2. Get night vision viewer from Driver.

   NOTE A: Have Driver stow Loader's periscope in night vision viewer stowage box in Driver's compartment.

3. Insert night vision viewer into mount opening in the Loader's hatch until seated and hold in place.
4. Turn retainers against viewer sides and tighten the retainer thumb nuts.
5. Turn viewer left and right to make sure it will move freely. If not, tell T.C.

   NOTE B: When night vision viewer is installed in Loader's hatch, the viewer obtains power only from a self-contained battery (See Task 20).

MEASUREMENT

During Training:
- Time - Between end of initiating stimulus and completion of Step 5.
- Accuracy - As measured by the match between the steps given above and appropriate steps performed by the Loader.

End of Training:
- Time - Between end of iniating stimulus and completion of Step 5.
- Accuracy - As indicated by:
  - . The Loader's night vision viewer seated in mount opening with retainer nuts tightened.
  - . The Loader's night vision viewer moving freely left and right.

REFERENCES

TM 9-2350-255-10; p. 2-224.

TASK 20: OPERATE THE NIGHT VISION VIEWER

CONDITIONS/STIMULUS

System State: Table 0, Column 20.
Loader Location: In the Loader's Station.
Initiating Stimulus: Completion of Task 10.

ACTION

Loader will:

1. Unscrew and take OFF battery cap on the left side of the viewer.
2. Put battery into viewer (where battery cap has been removed), positive (+) end first.
3. Screw battery cap back on viewer.
4. Look at round vision viewer screen.
5. Turn OFF - BRIGHT knob (located below the battery cap) all the way to BRIGHT.
6. If view on screen is too weak, replace battery. If view on screen is too bright, turn OFF - BRIGHT knob back toward OFF until view on screen is clear.
7. Turn viewer left or right to see area of observation.
8. After the operation, turn OFF - BRIGHT knob to OFF.
9. Unscrew and remove battery cap from viewer.
10. Remove battery and stow it.
11. Screw battery cap on to viewer until tight.

MEASUREMENT

During Training:
- Time - Between end of initiating stimulus and completion of Step 11.
- Accuracy - As measured by the match between the steps given above and appropriate steps performed by the Loader.

End of Training:
- Time - Between end of initiating stimulus and completion of Step 11.
- Accuracy - As indicated by:
  - The view on the night vision viewer bright enough for operation with the OFF - BRIGHT knob in position with battery in place.
  - The OFF - BRIGHT knob turned to OFF.
  - The battery stowed with the battery cap screwed tight on the viewer.

REFERENCES

TM 9-2350-255-10; p. 2-253.

TASK 30: REMOVE LOADER'S NIGHT VISION VIEWER

CONDITIONS/STIMULUS

System State: Table 0, Column 30.
Loader Location: In the Loader's Station
Initiating Stimulus: Completion of Task 20

ACTION

Loader will:
1. Unscrew the thumb nuts which are holding the viewer retainers against the sides of the viewer.
2. Take out viewer from the Loader's hatch.
3. Pass viewer to Driver.
4. Have the Driver take out the loading periscope from stowage box (located to Driver's left side).
5. Have the driver stow the night vision viewer in stowage box.
6. Get Loader's periscope from Driver.
7. Install Loader's periscope in Loader's hatch (See Task 11A).

MEASUREMENT

During Training:
Time - Between end of initiating stimulus and completion of Step 7.
Accuracy - As measured by the match between the steps given above and appropriate steps performed by the Loader.

End of Training:
Time - Between end of initiating stimulus and completion of Step 7.
Accuracy - As indicated by:
- The Loader's night vision viewer stowed in Driver's stowage box.
- The Loader's periscope installed in the Loader's hatch.

REFERENCES

TM 9-2350-255-10; p. 2-255.

MODULE P: PREPARE WEAPONS FOR TRAVEL

CONDITIONS/STIMULUS

System State: Table P, Coulum 1P.
Loader Location: In the Loader's station or outside of the tank.
Initiating Stimulus: Beginning of a travel operation.

ACTION

Loader will:
1P. Prepare Main Gun for travel.
2P. Prepare Coaxial Machinegun for travel.
3P. Prepare Loader's Machingun for travel.
4P. Prepare Grenade Launchers for travel.

TABLE P

POSITION OF CONTROLS FOR TASKS IN MODULE P WHEN TASK PERFORMANCE BEGINS

	POSITION OF CONTROLS			
	TASKS			
	1P	2P	3P	4P
AMPLIFIER MAIN POWER SWITCH	NORM	ANY POSITION	ANY POSITION	NORM
AMPLIFIER POWER CIRUCIT BREAKER SWITCH	ON	ON OR OFF	ON OR OFF	ON OR OFF
AMPLIFIER INTERCOM ACCENT SWITCH	ON	ON OR OFF	ON OR OFF	ON OR OFF
AMPLIFIER RADIO TRANSMISSION SWITCH	CDR + CREW	ANY POSITION	ANY POSITION	ANY POSITION
INTERCOM LEVER	INT ONLY	ANY POSITION	ANY POSITION	ANY POSITION
TURRET POWER SWITCH	ON	ON	ON OR OFF	ON OR OFF
DOMELIGHT	ON	ON	ON OR OFF	ON OR OFF
TURRET BLOWER SWITCH	OFF	OFF	OFF	OFF
GUN TURRET DRIVE SWITCH	ANY POSITION	ANY POSITION	ANY POSITION	ANY POSITION
LOADER'S HATCH	CLOSED	CLOSED	OPEN	OPEN

TASK 1P: PREPARE MAIN GUN FOR TRAVEL

CONDITIONS/STIMULUS

System State: Table P, Column 1P.
Loader Location: In the Loader's Station.
Initiating Stimulus: Beginning of a travel operation.

ACTION

Loader will:
1. Clear main gun (See Task 3H).
2. Lock main gun elevation travel lock (See Task 2C).
3. Tell gunner to set his GUN SELECT switch to TRIGGER-SAFE.

MEASUREMENT

During Training:
Time - Between end of initiating stimulus and completion of Step 3.
Accuracy - As measured by the match between the steps given above and appropraite steps performed by the Loader.

End of Training:
Time - Between end of initiating stimulus and completion of Step 3.
Accuracy - As indicated by:
- The main gun cleared.
- The main gun elevation travel lock locked.
- The Gunner's GUN SELECT switch in the TRIGGER-SAFE position.

REFERENCES

TM 9-2350-255-10; p. 2-253.

TASK 2P: PREPARE COAXIAL MACHINEGUN FOR TRAVEL

CONDITIONS/STIMULUS

System State: Table P, Column 2P.
Loader Location: In the Loader's Station.
Initiating Stimulus: Beginning of a Travel Operation.

ACTION

Loader will:
1. Clear coaxial machinegun (See Task 2I).
2. Take out ammunition belt from Freed chute which is wrapped over the main gun.
3. Put ammunition belt in stowage box on the left side of the main gun.

MEASUREMENT

During Training:
Time - Between end of initiating stimulus and completion of step 3.
Accuracy - As measured by the match between the steps given above and appropriate steps performed by the Loader.

End of Training:
Time - Between end of initiating stimulus and completion of Step 3.
Accuracy - As indicated by:
- The coaxial machinegun cleared.
- The ammunition belt in stowage box.

REFERENCES

TM 9-2350-255-10; p. 2-254.

TASK 3P: PREPARE LOADER'S MACHINEGUN FOR TRAVEL

CONDITIONS/STIMULUS

System State: Table P, Column 3P.
Loader Location: In the Loader's station.
Initiating Stimulus: Beginning of a Travel Operation.

ACTION

Loader will:
1. Clear Loader's machinegun (See Task 4J).
2. Put ammunition belt in stowage box on the left side of the machinegun.
3. Put machinegun toward front of tank.
4. Turn skate lock on top of the machinegun skate clockwise all the way.
5. Turn azimuth lock (located on the mount receptor of the skate) clockwise all the way.
6. Pull out ring on elevation lockpin (located on the right side of the machinegun) and turn elevation lockpin 1/4 turn to locked position, then let go.

MEASUREMENT

During Training:
Time - Between end of initiating stimulus and completion of Step 6.
Accuracy - As measured by the match between the steps given above and appropriate steps performed by the Loader.

End of Training:
Time - Between end of initiating stimulus and completion of Step 6.
Accuracy - As inidcated by:
- The Loader's machinegun cleared.
- The ammunition belt in the stowage box.
- The Loader's machinegun put toward the front of the tank with skate, azimuth and elevation locks locked.

REFERENCES

TM 9-2350-255-10; p. 2-254.

TASK 4P: PREPARE GRENADE LAUNCHERS FOR TRAVEL

CONDITIONS/STIMULUS

System State: Table P, Column 4P.
Loader Location: Outside of the Tank.
Initiating Stimulus: Beginning of a Travel Operation.

ACTION

Loader will:
1. Unload grenade launchers (See Task 2L).
2. Put covers over launchers.

MEASUREMENT

During Training:
- Time - Between end of initiating stimulus and completion of Step 2.
- Accuracy - As measured by the match between the steps given above and appropriate steps performed by the Loader.

End of Training:
- Time - Between end of initiating stimulus and completion of Step 2.
- Accuracy - As indicated by:
  - Grenade launchers unloaded.
  - Covers over the launchers.

REFERENCES

TM 9-2350-255-10; p. 2-254.

MODULE Q: POWER DOWN AND SECURE LOADER'S STATION

CONDITIONS/STIMULUS

System State: Table Q, Column 1Q.
Loader Location: In Loader's station or outside the tank.
Initiating Stimulus: The order from the T.C. to power down and secure the Loader's station.

ACTION

Loader will:
1Q. Stow the Loader guards.
2Q. Remove the Loader's periscope.
3Q. Secure the Loader's station.
4Q. Exit Tank.
5Q. Stow the crosswind sensor.
6Q. Remove the Loader's machinegun.
7Q. Close and lock the Loader's hatch from the outside.

TABLE Q

POSITION OF CONTROLS FOR TASKS IN MODULE Q WHEN TASK PERFORMANCE BEGINS

CONTROLS	POSITION OF CONTROLS TASKS 1Q	2Q	3Q	4Q
AMPLIFIER MAIN POWER SWITCH	NORM	NORM	OFF	OFF
AMPLIFIER POWER CIRCUIT BREAKER SWITCH	ON	ON	ON	ON OR OFF
AMPLIFIER INTERCOM ACCENT SWITCH	ON	ON	ON	ON OR OFF
AMPLIFIER RADIO TRANSMISSION SWITCH	CDR + CREW	CDR + CREW	CDR + CREW	ANY POSITION
INTERCOM LEVER	INT ONLY	INT ONLY	INT ONLY	ANY POSITION
TURRET POWER SWITCH	ON	ON	OFF	OFF
DOMELIGHT	ON	ON	OFF	OFF
TURRET BLOWER SWITCH	ON OR OFF	ON OR OFF	OFF	OFF
GUN TURRET DRIVE SWITCH	ANY POSITION	ANY POSITION	ANY POSITION	MANUAL
LOADER'S HATCH	CLOSED	CLOSED	CLOSED	CLOSED

TABLE Q

POSITION OF CONTROLS FOR TASKS IN MODULE Q WHEN TASK PERFORMANCE BEGINS

CONTROLS	POSITION OF CONTROLS TASKS 5Q	6Q	7Q
AMPLIFIER MAIN POWER SWITCH	OFF	OFF	OFF
AMPLIFIER POWER CIRCUIT BREAKER SWITCH	ON OR OFF	ON OR OFF	ON OR OFF
AMPLIFIER INTERCOM ACCENT SWITCH	ON OR OFF	ON OR OFF	ON OR OFF
AMPLIFIER RADIO TRANSMISSION SWITCH	ANY POSITION	ANY POSITION	ANY POSITION
INTERCOM LEVER	ANY POSITION	ANY POSITION	ANY POSITION
TURRET POWER SWITCH	OFF	OFF	OFF
DOMELIGHT	OFF	OFF	OFF
TURRET BLOWER SWITCH	OFF	OFF	OFF
GUN TURRET DRIVE SWITCH	MANUAL	MANUAL	MANUAL
LOADER'S HATCH	OPEN OR CLOSED	OPEN OR CLOSED	OPEN

TASK 1Q: STOW THE LOADER GUARDS

CONDITIONS/STIMULUS

System State: Table Q, Column 1Q.
Loader Location: In the Loader's station.
Initiating Stimulus: The order from the T.C. to power down and secure the Loader's station.

ACTION

Loader will:
1. Lift up on knee guard near the Loader's left knee and lay it down on turret floor.
2. Swing toe guard near the Loader's right foot back against seat.
3. Pull out and turn shoulder guard (located between the main gun breech and the Loader's left shoulder) down.

MEASUREMENT

During Training:
Time - Between end of initiating stimulus and completion of Step 3.
Accuracy - As measured by the match between the steps given above and appropriate steps performed by the Loader.

End of Training:
Time - Between end of initiating stimulus and completion of Step 3.
Accuracy - As indicated by:
- The Loader's knee guard laying down on the turret floor.
- The Loader's toe guard back against the seat.
- The Loader's shoulder guard turned down.

REFERENCES

TM 9-2350-255-10; p. 2-255.

TASK 2Q: REMOVE THE LOADER'S PERISCOPE

CONDITIONS/STIMULUS

System State: Table Q, Column 2Q.
Loader Location: In the Loader's station.
Initiating Stimulus: The order foom th T.C. to power down and service the Loader's station.

ACTION

Loader will:
1. Grasp and hold Loader's periscope in the center of the Loader's hatch.
2. Loosen two thumb nuts on the ends of periscope retainers.
3. Take out Loader's periscope from two retainers (located on the sides of the periscope opening in the hatch).

MEASUREMENT

During Training:
Time - Between end of initiating stimulus and completion of Step 3.
Accuracy - As measured by the match between the steps given above and appropriate steps performed by the Loader.

End of Training:
Time - Between end of initiating stimulus and completion of Step 3.
Accuracy - As indicated by:
. The Loader's periscope removed from Loader's hatch.

REFERENCES

TM 9-2350-255-10; p. 2-256.

TASK 3Q: SECURE THE LOADER'S STATION

CONDITIONS/STIMULUS

System State: Table Q, Column 3Q.
Loader Location: In the Loader's station.
Initiating Stimulus: The order from the T.C. to power down and secure the Loader's station.

ACTION

Loader will:

1. Make sure turret traverse lock is locked (See Task 2D).
2. Clear main gun (See Task 3H).
3. Make sure ejection guard (located at the end of the main gun) is forward, toward the main gun.
4. Make sure main gun breech (located on the end of the main gun is closed (See Task 2G, if necessary).
5. Set GUN TURRET DRIVE switch on the Loader's panel, to MANUAL.
6. Set TURRET BLOWER switch on the Loader's panel to OFF.
7. Check that MAIN GUN STATUS - SAFE light on the Loader's panel is lit. If not, do troubleshooting (See Task 1B, Step 4).
8. Lock main gun elevation lock (See Task 2C).
9. Make sure semi-ready ammunition door is closed (See Task 5E, if necessary).
10. Make sure ready ammunition door is closed (See Task 1E, Step 3, if necessary).
11. Make sure hull ammunition door is closed (See Task 7E, if necessary).
12. Stow coaxial ammunition belt in ready box (located on the left side of the main gun).
13. Clear coaxial machinegun (See Task 2I).
14. Stow Loader's guards (See Task 1Q).
15. Set amplifier MAIN PWR switch (located near the Loader's right shoulder) to OFF.
16. Take off intercom cables extending from the Loader's helmet to the intercom box, from the botton of the intercom box.
17. Take OFF CVC helmet and set aside for later use.
18. Have T.C. make sure VEHICLE MASTER POWER switch is set to OFF.
19. Have T.C. make sure TURRET POWER switch is set to OFF.

MEASUREMENT

During Training:
Time - Between end of initiating stimulus and completion of Step 19.
Accuracy - As measured by the match between the steps given above and appropriate steps performed by the loader.

End of Training:

Time - Between end of initiating stimulus and completion of Step 19.

Accuracy - As indicated by:

- The TURRET POWER switch set to OFF.
- The VEHICLE MASTER POWER swithc set to OFF.
- The Loader's CVC helmet stowed with the intercom cables disconnected from the intercom box.
- The amplifier MAIN PWR switch set to OFF.
- The Loader's guards stowed.
- The coaxial machinegun cleared with ammunition belt in the ready box.
- All ammunition doors closed.
- The main gun elevation lock locked.
- The MAIN GUN STATUS SAFE light lit.
- The TURRET BLOWER switch set to OFF.
- The GUN TURRET DRIVE switch set to MANUAL.
- The main gun breech closed.
- The turret traverse lock locked.

REFERENCES

TM 9-2350-255-10; p. 2-257 to p. 2-258.

TASK 4Q: EXIT THE TANK

CONDITIONS/STIMULUS

System State: Table Q, Column 4Q.
Loader Location: In the Loader's station.
Initiating Stimulus: The order from the T.C. to power down and secure the Loader's station.

ACTION

Loader will:
1. Secure loader's station (See Task 3Q).
2. Grasp and squeeze hatch release handle on the side of the hatch.
3. Turn hatch release tab (located at the base of the release handle) and handle counterclockwise.
4. Push hatch all the way open until it locks.
5. Climb out of tank.

MEASUREMENT

During Training:
Time - Between end of initiating stimulus and completion of Step 5.
Accuracy - As measured by the match between the steps given above and appropriate steps performed by the Loader.

End of Training:
Time - Between end of initiating stimulus and completion of Step 5.
Accuracy - As indicated by:
- The Loader's station secure.
- The Loader outside of the tank.

REFERENCES

TM 9-2350-255-10; p. 2-259.

TASK 5Q: STOW THE CROSSWIND SENSOR

CONDITIONS/STIMULUS

System State: Table Q, Column 5Q.
Loader Location: Outside of the Tank.
Initiating Stimulus: To order from the T.C. to power down and secure the Loader's station.

ACTION

Loader will:

1. Unbuckle stowage strap (located in front of the sensor on the top of the turret).
2. Pull out and up on two latches on the sensor base to unlock crosswind sensor.
3. Swing crosswind sensor forward, down into stowage strap.
4. Buckle stowage strap around crosswind sensor and pull tight.

MEASUREMENT

During Training:
Time - Between end of initiating stimulus and completion of Step 4.
Accuracy - As measured by the match between the steps given above and appropriate steps performed by the Loader.

End of Training:
Time - Between end of initiating stimulus and completion of Step 4.
Accuracy - As indicated by:
. The crosswind sensor stowed with stowage strap tight.

REFERENCES

TM 9-2350-255-10; p. 2-259.

TASK 6Q: REMOVE THE LOADER'S MACHINEGUN

CONDITIONS/STIMULUS

System State: Table Q, Column 6Q.
Loader Location: In the Loader's station outside of the tank.
Initiating Stimulus: The order from the T.C. to power down and secure the Loader's station.

ACTION

Loader will:

NOTE A: If Loader's machinegun has been fired in past hour; wear asbestos mittens.

1. Clear Loader's machinegun (See Task 4J).
2. Take off mounting pin from the right side of the mount.
3. Lift front of Loader's machinegun up.
4. Slide Loader's machinegun back and take it off mount.
5. Put mounting pin back into mount.
6. Stow Loader's machinegun off tank for future use.

MEASUREMENT

During Training:
- Time - Between end of initiating stimulus and completion of Step 6.
- Accuracy - As measured by the match between the steps given above and appropriate steps performed by the Loader.

End of Training:
- Time - Between end of initiating stimulus and completion of Step 6.
- Accuracy - As indicated by:
  - The Loader's machinegun stowed off the tank.
  - The mounting pin in the mount.

REFERENCES

TM 9-2350-255-10; p. 2-256.

TASK 7Q: CLOSE AND LOCK THE LOADER'S HATCH

CONDITIONS/STIMULUS

System State: Table Q, Column 7Q.
Loader Location: Outside the tank.
Initiating Stimulus: Completion of Task 6Q with all crewmembers out of the tank.

ACTION

Loader will:
1. Grasp hatch handle using right hand.
2. Reach into hatch opening and grasp lock hatch on the side of the hatch opening using the left hand.
3. Pull lock handle towards you and the hatch opening and remove left hand from opening.
4. Close hatch.
5. Put in and close padlock through hole in brackets on the outside edge of the hatch.
6. Get off tank using hand hold and step on left front skirt.

MEASUREMENT

During Training:
Time - Between end of initiating stimulus and completion of Step 6.
Accuracy - As measured by the match between the steps given above and appropriate steps performed by the Loader.

End of Training:
Time - Between end of initiating stimulus and completion of Step 6.
Accuracy - As indicated by:
- Padlock closed through hole in brackets on hatch and turret top.
- The Loader off the tank.

REFERENCES

TM 9-2350-255-10; p. 2-260.

MODULE R: ZERO LOADER'S MACHINEGUN

Conditions/Stimulus

System State:	Table R, Column 1K.
Loader Location:	In Loader's station.
Initiating Stimulus:	The order from the TC to zero the Loader's machinegun.

ACTION

Loader will:

1R. Zero the Loader's machinegun.

TABLE R

POSITION OF CONTROLS FOR TASKS IN MODULE K WHEN TASK PERFORMANCE BEGINS

CONTROLS	POSITION OF CONTROLS TASKS IR
AMPLIFIER MAIN POWER SWITCH	NORM
AMPLIFIER POWER CIRCUITBREAKER SWITCH	ON
AMPLIFIER INTERCOM ACCENT SWITCH	ON
AMPLIFIER RADIO TRANSMISSION SWITCH	CDR + CREW
INTERCOM LEVER	INT ONLY
TURRET POWER SWITCH	ON
DOMELIGHT	ON OR OFF
TURRET BLOWER SWITCH	OFF
GUNTURRET DRIVE SWITCH	ANY POSITION
LOADER'S HATCH	OPEN

TASK 1R: ZERO LOADER'S MACHINEGUN

Conditions/Stimulus

System State: Table R, Column 1R.
Loader Location: Inside the Loader's station.
Initiating Stimulus: The order from the TC to zero the Loader's machinegun.

NOTE

The training package for engaging targets by the loader had not been developed by the time this report was published. Zeroing the Loader's machinegun will be a part of that package.

MODULE S: TARGET ACQUISITION

CONDITIONS/STIMULUS

System State: Table K, Column 1S.
Loader Location: In Loader's station.
Initiating Stimulus: The need to acquire targets.

ACTION

Loader will:
1S. Acquire targets.
2S. Rank targets according to potential danger.
3S. Identify US and foreign equipment.

TABLE S

POSITION OF CONTROLS FOR TASKS IN MODULE S WHEN TASK PERFORMANCE BEGINS

CONTROLS	POSITION OF CONTROLS TASKS 1S	2S	3S
AMPLIFIER MAIN POWER SWITCH	NORM	NORM	NORM
AMPLIFIER POWER CIRCUIT BREAKER SWITCH	ON	ON	ON
AMPLIFIER INTERCOM ACCENT SWITCH	ON	ON	ON
AMPLIFIER RADIO TRANSMISSION SWITCH	CDR + CREW	CDR + CREW	CDR + CREW
INTERCOM LEVER	INT ONLY	INT ONLY	INT ONLY
TURRET POWER SWITCH	ON	ON	ON
DOMELIGHT	*ON OR OFF*	ON OR OFF	ON OR OFF
TURRET BLOWER SWITCH	ON OR OFF	ON OR OFF	ON OR OFF
GUN TURRET DRIVE SWITCH	ANY POSITION	ANY POSITION	ANY POSITION
LOADER'S HATCH	OPEN OR CLOSED	OPEN OR CLOSED	OPEN OR CLOSED

TASK 1S: ACQUIRE TARGETS

CONDITIONS/STIMULUS

System State: Table S, Column 1S.
Loader Location: In Loader's station.
Initiating Stimulus: The appearance of a target in assigned area of observation.

ACTION

Loader will:
1. Detect targets in assigned area of observation.
2. Identify targets in assigned area of obseration.
3. Locate targets in assigned area of observation by direction and range.
4. Report targets presence and/or engage targets.

MEASUREMENT

During Training:
Time - Between end of initiating stimulus and completion of Step 4.
Accuracy - As measured by the match between the actual conditions listed in the above steps and the Loader's responses for each step.

End of Training:
Time - Between end of initiating stimulus and completion of Step 4.
Accuracy - As indicated by:
- The Loader detecting targets in assigned sector.
- The Loader identifying targets in assigned sector.
- The Loader locating targets in assigned sector.
- The Loader reporting targets presence and/or engaging targets.

REFERENCES

FM 17-12; p. 6-1.

TASK 2S: RANK TARGETS ACCORDING TO POTENTIAL DANGER

CONDITIONS/STIMULUS

System State: Table S, Column 2S.
Loader Location: In Loader's station.
Initiating Stimulus: The need to determine the most dangerous target.

ACTION

Loader will:
1. Identify the most dangerous target by considering:
   . the target sees you.
   . the target can kill you.
   . the target is preparing to engage you.
2. Identify the dangerous target by considering:
   . the target can kill you.
   . the target does not see you.
3. Identify the least dangerous target by considering:
   . the target does not have the capability of killing you but can report you to targets that can kill you.

MEASUREMENT

During Training:
Time - Between taret's appearance and beginning of report or engagement.
Accuracy - As measured by the match between the actual target conditions listed in the above steps and the Loader's responses for each step.

End of Training:
Time - Between target's appearance and beginning of report or engagement.
Accuracy - As measured by targets reported and/or engaged by the Loader in describing order of threat targets present.

REFERENCES

FM 17-12; p. 6-2 and 6-3.

TASK 3S: IDENTIFY US AND FOREIGN EQUIPMENT

CONDITIONS/STIMULUS

System State: Table S, Column 3S.
Loader Location: In Loader's station.
Initiating Stimulus: The need to prevent the inadvertent engagement of frinedly targets.

ACTION

Loader will:
1. Identify US and foreign ground equipment (vehicles).
2. Identify US and foreign flying equipment (aircraft).

MEASUREMENT

During Training:
Time - Between US and foreign equipment appearing and beginning of report or engagement.
Accuracy - As measured by the match between the actual target conditions listed and the Loader's response in reporting or engaging the targets.

End of Training:
Time - Between US and foreign equipment appearing and beginning of report or engagement.
Accuracy - As measured by the match between the actual target conditions listed and the Loader's response in reporting or engaging the targets.

REFERENCES

FM 17-12; p. 6-9.

MODULE T: OPERATE INTERCOMMUNICATIONS EQUIPMENT

CONDITIONS/STIMULUS

System State: Table T, Column 1T.
Loader Location: In Loader's station.
Initiating Stimulus: The need to communicate with other crewmembers.

ACTION

Loader will: 1T. Operate intercommunication equipment.

TABLE T

POSITION OF CONTROLS FOR TASKS IN MODULE T WHEN TASK PERFORMANCE BEGINS

CONTROLS	POSITION OF CONTROLS TASKS 1T
AMPLIFIER MAIN POWER SWITCH	NORM
AMPLIFIER POWER CIRCUIT BREAKER SWITCH	ON
AMPLIFIER INTERCOM ACCENT SWITCH	ON
INTERCOM LEVER	ANY POSITION
TURRET POWER SWITCH	ON
DOMELIGHT	ON
TURRET BLOWER SWITCH	OFF
GUN TURRET DRIVE SWITCH	MANUAL
LOADER'S HATCH	CLOSED

TASK 1T: OPERATE INTERCOMMUNICATIONS EQUIPMENT

CONDITIONS/STIMULUS

System State: Table T, Column 1T.
Loader Location: In Loader's station.
Initiating Stimulus: The need to communicate with other crewmembers.

ACTION

Loader will: NOTE - Task 8A is executed prior to the following steps:

1. Talk into CVC microphone and turn knob on bottom of intercom box to adjust volume.
2. Push lever on left side of CVC helmet back to the center position.
3. Set lever on front of intercom box to position for use as ordered by TC.

MEASUREMENT

During Training:
Time - Between the end of the initiating stimulus and completion of Step 3.
Accuracy - As measured by the match between steps given above and appropriate steps performed by the Loader.

End of Training:
Time - Between the end of the initiating stimulus and completion of Step 3.
Accuracy - As indicated by:
. Ability to communicate as indicated by the TC.

REFERENCES

TM 9-2350-225-10; p. 2-220.